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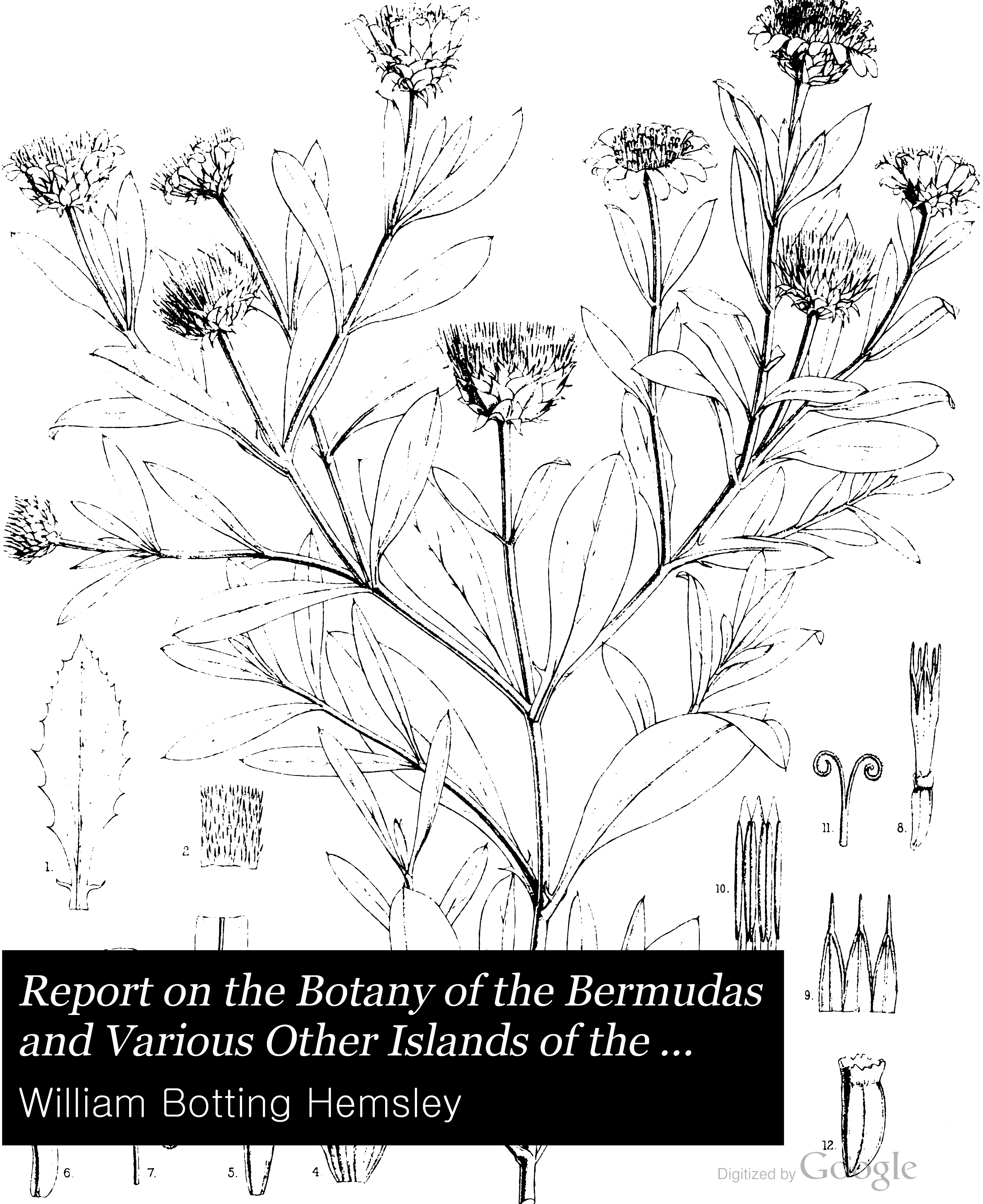

Report on the Botany of the Bermudas and Various Other Islands of the ...

William Botting Hemsley

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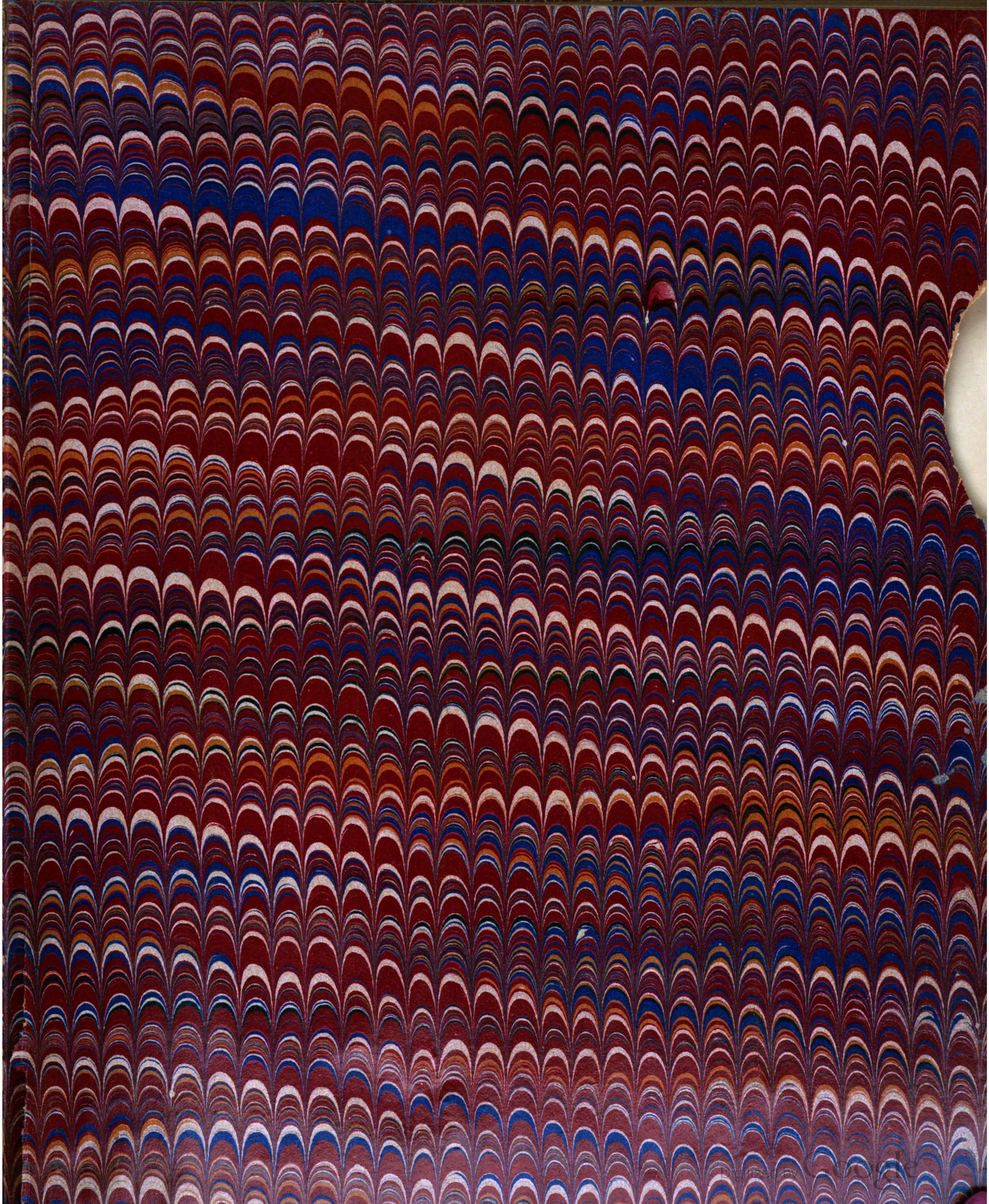
W. G. FARLOW.



REPORT

ON THE

SCIENTIFIC RESULTS

Pro. Farlow,

OF THE

VOYAGE OF H.M.S. CHALLENGER

DURING THE YEARS 1873-76

Mu.

UNDER THE COMMAND OF
CAPTAIN GEORGE S. NARES, R.N., F.R.S.
AND THE LATE
CAPTAIN FRANK TOURLE THOMSON, R.N.

PREPARED UNDER THE SUPERINTENDENCE OF
THE LATE
Sir C. WYVILLE THOMSON, Knt., F.R.S., &c.
REGIUS PROFESSOR OF NATURAL HISTORY IN THE UNIVERSITY OF EDINBURGH
DIRECTOR OF THE CIVILIAN SCIENTIFIC STAFF ON BOARD
AND NOW OF
JOHN MURRAY
ONE OF THE NATURALISTS OF THE EXPEDITION

BOTANY—VOL. I.

PART I.—REPORT ON THE BOTANY OF THE BERMUDAS

BY WILLIAM BOTTING HEMSLEY, A.L.S.

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EDITORIAL NOTES.

THIS Report on the Botany of the Bermudas is the first part of the Botanical Series of Reports on the Scientific Results of the Expedition, and forms one of a series of Reports dealing with Insular Floras.

Botanical notes for the guidance of the Naturalists of the Expedition were prepared at the Royal Gardens, Kew, previous to the departure of the Challenger, and were incorporated in the instructions drawn up by the Circumnavigation Committee of the Royal Society.[1]

The botanical collections of the Expedition referred to in this Report were made by Mr H. N. Moseley during the cruise, and despatched direct to Kew from various ports touched at by the Expedition. Preliminary notices of these collections, and notes by Mr Moseley on the general aspects of the vegetation of many of the places visited, were from time to time published in the Journal of the Linnean Society.[2]

The Continental botanical collections made during the voyage being very fragmentary, it was determined to limit these Reports to a review of the Insular Floras which came within the range of the Expedition, combining for this purpose the materials already in existence at the Royal Gardens, Kew, and at the British Museum, with the new facts brought to light by the Challenger collections.

The task of preparing these Reports dealing with the Insular Floras was, on the recommendation of Sir Joseph D. Hooker, K.C.S.I., C.B., F.R.S., intrusted to Mr William Botting Hemsley, A.L.S., who writes—

"When asked whether I would undertake to report on the Botany of the Challenger Expedition, the report to be restricted to Insular Floras, I unhesitatingly replied in the affirmative, because I felt assured of the friendly assistance not only of the botanists at Kew and the British Museum, but also of various specialists in cryptogamic botany. In this I was not mistaken; and it is now a pleasant duty to record my obligations and convey my thanks to those gentlemen to whom I am indebted for giving me the benefit of their experience, and thereby adding greatly to the value of my work. From long association with Sir Joseph Hooker in botanical work I had become, through his influence, particularly interested in the study of Insular Floras—an interest first awakened when I had the advantage of examining with him, now more than twenty years ago, a large number of New Zealand plants in connection with his Handbook of the Flora; but it was only as I advanced with my present work that I more fully realised the difficulties of the task before me, and the impossibility, notwithstanding that I was receiving so much help from others, of my being able to accomplish it in a manner wholly satisfactory to myself. As I proceeded, facts accumulated to an unexpected extent, and the number of questions and issues involved increased at every step. At first I was rather inclined to speculations; but I soon became aware that a careful collection of facts, and a conscientious examination of the evidence upon which certain theories and statements connected with Insular Floras had been founded, would be of more value than a speculative treatment of the subject. Imbued with this idea, I have to a great extent left the facts to speak for themselves; yet, without attempting a final solution of the many problems which I encountered, I have not altogether abstained from expressing my own opinions, nor from pointing out what appeared to me the correct deductions from the facts adduced. This change in the method of treatment will explain any little inequalities in the work, because the first part was printed before the writing of the second was finished, and the second was printed before the writing of the third was begun, while the Introduction was mainly written after the whole of the other was in type.

---

[1] Narr. Chall. Exp., vol. i., 1885, p. 27 *et seq.*

[2] For a list of these publications see Narr. Chall. Exp., Bibliography, Appendix VI. pp. 1053–1063.

"Due acknowledgment has been made in the proper places of information extracted from published works and unpublished documents, as well as to contributors of dried plants from the various islands, so that it only remains for me to mention those who have afforded me active help—help which has saved me from many a pitfall, and largely compensated for my own inexperience in some branches of botany, and for which I am glad of this opportunity of expressing my sincere thanks.

"The work was intrusted to me under the superintendence of Sir Joseph Hooker, and I am under special obligations to him for his guidance, for placing at my disposition all his notes and references relating to Insular Floras, and also for reading the proofs as they issued from the press. I had hoped that he himself would write the Introduction, but his multifarious duties rendered it impracticable. Professor Oliver's aid I cannot overestimate, for he has throughout permitted me to consult him upon points of detail as they arose, and as we were usually working in the same room I have profited by it on numberless occasions. Mr W. T. Thiselton Dyer, who has taken the greatest interest in the work from the beginning, has also read the proofs and assisted me in many ways, more especially in searching out interesting facts bearing upon my subject from the voluminous official correspondence at Kew. Mr J. G. Baker has given me direct help in drawing up the lists of ferns; Mr Mitten in mosses and liverworts; the Rev. J. M. Crombie in lichens, and Dr M. C. Cooke in fungi; and these gentlemen, together with the Rev. M. J. Berkeley, Dr Nylander, the late Professor G. Dickie, and Dr Reinsch, have between them named all the cryptogams. In some instances I have ventured to add references to descriptions, and to give some of the more important synonyms, as well as the distribution of the species; but I have been careful to discriminate between their work and my own in order that they should not suffer from any errors into which I may have fallen. As mentioned elsewhere, Mr Carruthers and Mr Britten spared themselves no trouble in searching through the earlier collections at the British Museum, especially the Sloane Herbarium, for plants coming within the scope of my work; and I may add that more use might have been made of the British Museum collections of Polynesian plants, but as I had to deal with such a very small fragment of the Flora (Admiralty Islands only) it was not thought necessary, especially as Seemann enumerates, in his Flora Vitiensis, all the species he met with in the British Museum Herbarium. His work, however, is in a measure supplemented by a number of unpublished lists of comparatively recent collections of insular plants at Kew, partly in the general Introduction, and partly in the Report on the Botany of the South-eastern Moluccas.

"Finally, it gives me much pleasure to mention that Miss Matilda Smith has taken great pains with the drawings made from dried plants, and especially with the dissections of the flowers.

"With regard to the details nothing more need be said here, as everything is explained that seemed to require explanation in the body of the work. I may repeat, however, that full references are given in only one place for such plants as occur in more than one of the florulas contained in each part of the Reports."

The manuscript of this Report was received by me on the 4th March 1884.

JOHN MURRAY.

CHALLENGER OFFICE, 32 QUEEN STREET,
EDINBURGH, 1*st June* 1885.

THE

VOYAGE OF H.M.S. CHALLENGER.

BOTANY.

REPORT on the BOTANY OF THE BERMUDAS and various other ISLANDS of the ATLANTIC and SOUTHERN OCEANS. By W. BOTTING HEMSLEY, A.L.S.

THE BERMUDAS.

INTRODUCTORY NOTES.

PHYSICAL CONDITIONS OF THE ISLANDS.

THE Bermudas consist of an irregular chain of islets twenty-five miles long and somewhat in the form of the letter J; and, without counting the smaller rocks, they number about one hundred, lying in the Western Atlantic, between 32° 14′ and 32° 23′ N. latitude, and 64° 38′ and 64° 53′ W. longitude, thus being nearly 580 nautical miles from the nearest land, Cape Hatteras in North Carolina. The principal islets are so close together that there is continuous communication by bridges from St George Island in the north to Somerset Island, nearly at the extremity of the curve at the other end of the chain. Bermuda itself, the largest island, is nowhere more than three miles across, and the highest land in the group does not exceed 250 feet above the level of the sea. The coast is either rocky, presenting an irregular surface of weather-worn calcareous sandstone, or sandy, the sand being blown up into dunes covering extensive tracts. In the interior hollows are peat-bogs or marshes of considerable area; yet there is nowhere a running stream, or even so much as a permanent pond or pool. It has been stated[1] that there is not a trace of a stream or pool, or even of a ditch, the rain sinking through the soil where it falls as it might through a sieve; but it must be otherwise at certain seasons, for Mr Moseley[2] says that sheets of shallow water, sometimes as much as a quarter of a mile long, occur in some of the valleys and hollows inland. Several of them were passed on the road from Hamilton to Somerset Island.

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[1] Sir Wyville Thomson in *Nature*, vol. viii. p. 267.

[2] *Journ. Linn. Soc. Lond.*, vol. xiv. p. 319.

Some of these ponds adjoined peat-marshes, yet their water was not at all peaty. In the water of several no salt was perceptible to the taste, but Mr Moseley was informed that they were salter at certain seasons.

The islands are wholly built up of a calcareous limestone of varying degrees of hardness, and there are numerous caves, those of Paynter's Vale being the most noteworthy, and the most interesting to the botanist, as it is among them that the greatest variety of plants is found. One of the features of the islands is the moving coral sand of the flat parts of the coast. Where it is not bound by the roots of vegetation it gradually moves onwards, burying all before it.

CLIMATE.

Owing to their geographical position the Bermudas have a climate of very equable temperature, varying in the colder months from 55° to 70° Fahr.; but the heat of the summer months is very oppressive on account of the excessive moisture of a prevailing tropical wind. The following table of the mean monthly temperatures compiled by Sir J. H. Lefroy, will give some idea of the climate:—

	Fahr.		Fahr.
January	63·4°	July	80°
February	63°	August	81·7°
March	63·4°	September	79·8°
April	66·5°	October	73·7°
May	70·4°	November	68°
June	76°	December	64·5°

From this it will be seen that the winter temperature is about equal to the mean summer temperature of the British Islands, and the mean annual temperature reaches 70·9° Fahr. The minimum winter temperature is rarely below 50° Fahr. On the whole, the winter climate is agreeable, though storms are not infrequent and sometimes disastrous.

VEGETATION—HISTORICAL SKETCH.

The earliest reference to the vegetation of the Bermudas that we have seen is by Henry May,[1] who was accommodated with a passage home from the West Indies in a French man-of-war, commanded by Charles de la Barbotiere. On the 17th December 1593 this ship was wrecked on the north-west part of the "Isle of Bermuda." May says: "This island is divided all into broken islands; and the greatest part I was upon, which might be some four or five miles long and two miles and a half over, being all woods, as cedar [*Juniperus bermudiana*] and other timber; but cedar is the chiefest." Having saved their carpenter's tools from the wreck, they built a bark, presumably of the cedar-wood, "of some eighteen tun," wherewith they left the islands, after a sojourn of five months. May also states that there were hogs in the south part; but they were so lean, "by reason the island is so barren," that they could not eat them. Fresh water could only be procured by digging. Unfortunately our author does not mention how they subsisted during the five months they (twenty-six in number) lived there, though chiefly, no doubt, on the "fish, fowl, and tortoise, of which there was good store."

---

[1] Hakluyt's Collection of the Early Voyages, Travels, and Discoveries of the English Nation. New edition, 1811, vol. iv. p. 55.

Our next source of information is S. Jourdan,[1] who was on board the "Sea Venture," commanded by Sir George Sommers, which was wrecked on the coast of the Bermudas in 1609. At that date the hogs were so abundant that Sir George Sommers killed thirty-two on one hunting excursion. Hence it would appear that the islands must have been exceptionally bare of herbage when May was there. Respecting the vegetable productions of the country, Jourdan is more explicit than May, and we are able from his account to recognise several of the elements of the present flora. After descanting on the abundance and good quality of the animal food afforded by the islands, he proceeds: "The country yeeldeth divers fruits, as prickled peares [*Opuntia* spp.] in great abundance, which continue greene upon the trees all the yeare; also great plenty of mulberries [*Conocarpus erectus?*], white and red; and on the same are great store of silke-wormes [these turned out to be spiders], which yeelde tods of silke, both white and yellow, being some course and some fine. And there is a tree called a palmito tree [*Sabal blackburniana*] which hath a very sweete berry, upon which the hogs doe most feede; but our men finding the sweetnesse of them, did willingly share with the hogs for them, they being very pleasant and wholsome, which made them carelesse almost of any bread with their meate; which occasioned us to carry in a manner all that store of flower and meale we did or could save for Virginia. The head of the palmito tree is very good meate, either raw or sodden. It yeeldeth a head which weigheth about twenty pounds, and is farre better meate then any cabbidge. There are an infinite number of cedar trees [*Juniperus bermudiana*] (the fairest I thinke in the world), and those bring forth a very sweet berry and wholsom to eate. The country (for as much as I could find myself, or heare by others) affords no venimous creature or so much as a rat or a mouse, or anything unwholesome."

The foregoing extract establishes some interesting facts concerning the presence and preponderance at that date of four or five plants, namely, *Conocarpus*, *Opuntia*, *Juniperus*, and *Sabal*, which still constitute the more conspicuous features of the vegetation.

Jourdan also alludes to the protection afforded by trees to shipping in a harbour entered from the south-east side. Farther on he says that he had almost omitted through forgetfulness to mention that they found very good tobacco. We can only suppose that he mistook some other plant for the true tobacco; for although tobacco was subsequently extensively cultivated for a number of years, it has not apparently survived as a colonist. Jones, however (Proc. and Trans. Nov. Scot. Inst. Nat. Sc., 1873, p. 266), mentions that he was informed that tobacco plants are sure to spring up where old stone walls are taken down.

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[1] A Discovery of the Barmudas, otherwise called the Isle of Divels, by Sir Thomas Gates, Sir George Sommers, and Captayne Newport, with divers others. Set forth for the love of my Country and also for the good of the Plantation in Virginia. Sib Jourdan. London, 1610. Hakluyt's Coll., vol. v. p. 551.

In the Historye of the Bermudaes or Summer Islands, edited by General Sir J. Henry Lefroy, there is early mention (p. 3) of some of the principal vegetable productions of the islands, notably of the "many tall and goodly cæders, infinite store of palmitoes and numbers of mulbery trees." There is also a good description of the prickly pear, and the "wild olive" is frequently mentioned. Whether this was the European olive run wild, or the native shrub (*Forestiera porulosa*) belonging to the same natural order, is uncertain. Another interesting fact is the reference to the "poisonous weed" [*Rhus toxicodendron*], showing that it is not a plant of recent introduction. The description of it is unmistakable.

Between these early records and the beginning of the present century we have gleaned no information of importance or interest on the vegetation of the Bermudas. Indeed, the botanical history of the islands may be said to have begun in 1806, when François André Michaux visited them. The American vessel in which he had taken a passage to the United States for the purpose of collecting seeds of forest trees for the French Government was seized by the commander of the British man-of-war "Leander," and Michaux, the only passenger, was taken on board the latter vessel. She put into the Bermudas for water, and during her stay of a week Michaux was permitted to land; and he took advantage of the opportunity to study the vegetation, subsequently publishing[1] the results of his observations, the substance of which is worth reproducing here, as the earliest notice of the vegetation of the islands by a botanist. It was written on board the "Leander" on her way from the Bermudas to Halifax; hence it is necessarily imperfect, and in some points inaccurate. St George was the only island traversed by Michaux, and what follows relates to that alone.

Three parts of the island were covered with wood; the rest was partly cultivated and partly so barren as to be uncultivable. The plants natural to the country were little varied, and although Michaux made only a few hasty walks, he believed that he could state with some degree of certainty that the number of species did not exceed 140 or 150. "Among these plants," he says, "we find several of the Old World which have not the appearance of having been carried thither, such are *Verbascum thapsus, Anagallis arvensis, Mercurialis annua, Leontodon Taraxacum, Plantago major, Urtica urens, Gentiana nana, Oxalis acetosella*,[2] &c." Michaux further notes the palmetto, the poison vine, the sage-bushes (*Lantana* spp.), a pretty verbena, and a small *Medicago*. The last was the commonest plant in the country, each plant occupying scarcely a square inch of ground; but they were so numerous that they completely carpeted the surface in many places, grasses being almost entirely absent.

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[1] Notice sur les Isles Bermudes, et particulièrement sur l'Isle Saint Georges, in *Annales du Muséum d'Histoire Naturelle*, Paris, 1806, t. viii. pp. 356–364.

[2] The two last names were almost certainly written without thought, and probably for *Erythræa* and *Oxalis corniculata*.

It is interesting to read what he has to say concerning the cedar (*Juniperus*) at that date. The islands, he says, were covered with it, growing in all kinds of soils and situations, but most vigorously in the valleys, where it attained a height of 40 to 50 feet, with a trunk up to 15 inches in diameter. On the heights and in places where it had been cut down, it was springing up again spontaneously.

One more fact in connection with this date is worth mentioning: according to Michaux, the flourishing agriculture of earlier times had dwindled down to nothing.

Present Condition of the Vegetation.

With the exception of a few odd specimens preserved in the Sloane Collection[1] at the British Museum, the following enumeration of the plants of the Bermudas is entirely based upon specimens and data collected within the last forty or fifty years. The plants in the Sloane Herbarium were collected by a Mr John Dickinson,[2] and originally belonged, it would seem, to Petiver, who presented them to Plukenet, and through him they came into the possession of Sloane. They are—*Triumfetta lappula, Melilotus parviflora, Conocarpus erectus, Eupatorium macrophyllum, Erigeron canadense, Erigeron linifolius, Erigeron darrellianus, Verbena urticæfolia, Euphorbia buxifolia, Myrica cerifera, Sisyrinchium bermudiana*, and *Carex bermudiana*. The last-named plant, which appears to be endemic in the islands, we have seen from no other source; *Erigeron darrellianus* is also apparently endemic, and, like the *Carex*, had lain undetermined until we described it.

The modern collections to which we have had access are, if we except a few flowering plants sent by Sir W. J. Reid, the Rev. C. J. Johns, and Mr J. F. Holton, and a few ferns by Mr Farlow, only three in number. First, a collection made by A. W. Lane, Esq., before 1845, a set of which was acquired by the late Sir William Hooker, and is now in the National Collection at Kew. Among other documents relating to the flora of the Bermudas for which we are indebted to Sir J. H. Lefroy is a copy of a List of the Native Plants of Bermuda, compiled by A. W. Lane, Esq., of H.M.S. "Illustrious," and presented to the Bermuda Library by Sir W. J. Reid, 8th July 1845. This list includes 127 species, a large proportion of which we regard as indigenous. The set at Kew is not quite complete. Secondly, there are the plants collected from time to time by Sir J. H. Lefroy, and sent to Kew for identification. These are numerous, as the frequent recurrence of his name in the enumeration testifies; and they embrace several species not sent by any other collector, and not included in Dr Rein's list, to which we shall have occasion to refer again. Thirdly, the collection made by Mr Moseley, which consisted of about 160 species of flowering plants and ferns, besides a considerable number of algæ and other cryptogams.[1]

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[1] We have to thank Mr Carruthers and Mr Britten, of the British Museum, for the great trouble they have taken in searching the volumes of the Sloane Herbarium for plants coming within the scope of this work.

[2] Petiver in his Musei Petiveriani, Centuria Octava, p. 80, alludes to him as follows: "To Mr John Dickinson I am obliged for some plants he lately sent me from Bermudas (besides other collections some years ago), with assurances of larger performances."

We may now briefly examine the literature on the vegetation of the islands which has been published since Michaux's sketch at the beginning of the century. In 1859 Mr J. M. Jones published a little work[2] on the natural history and meteorology of the Bermudas. The botany is perhaps the weakest point; still it contains some interesting notes on certain plants which we have considered worth reproducing. In 1873 the same writer published[3] a fuller account of the plants, wild and cultivated, in the islands. This has the same defects as the original enumeration; but its merits are greater, inasmuch as it was based on a list drawn up by Sir J. H. Lefroy, chiefly from the names of plants furnished him by the authorities at Kew. In the previous year, 1872, Sir J. H. Lefroy had privately printed a list of all the plants known to exist in the islands, including single specimens in his own greenhouse. A copy of this list, lent by Sir J. H. Lefroy, with numerous manuscript emendations and additional information on the habitats of the wild plants, has been of the greatest service to us. Another account of the botany of the Bermudas appeared in 1873,[4] the author being the eminent traveller and scholar, Dr J. J. Rein, and his contribution to the subject has a special value. He resided some time in the islands and made a collection of 128 vascular plants belonging to fifty-six natural orders, besides a considerable number of algæ. The vascular plants were determined by the late Dr Grisebach, the author of the Flora of the British West Indies, and the late Dr W. H. Harvey verified Dr Rein's names of the algæ; therefore they may be regarded as reliable. Indeed, with two or three unimportant exceptions, the species enumerated in his list are the same as we have seen in other collections. Finally, there are Mr Moseley's Notes on the Vegetation of Burmuda.[5] From these various sources, aided by the photographs of the Expedition, and some others kindly forwarded to us by Mr Heyl of Hamilton, Bermuda, we are able to give a fair description of the aspects of the vegetation, and in all probability an almost complete enumeration of the species constituting the present flora of the islands.

The one striking feature in the softly undulating landscape is the ubiquitous cedar, relieved here and there by clusters and isolated individuals of the palmetto. Before discussing the less prominent features of the flora we will examine its composition as a whole. It should be explained here that most likely some species included in the category of probably indigenous[1] have no claim to that position, while a few others, which from want of evidence have been placed among the more numerous introduced element, are indigenous in the sense explained below.

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[1] Just as we were on the point of going to press we received a collection of Bermuda plants made by Mr Oswald A. Reade of the Royal Naval Hospital, Bermuda, and kindly communicated by him for the purposes of this work. It contained a large proportion of the plants in our enumeration, and, besides a few evidently introduced species not included by us, there was one additional indigenous grass, namely, *Spartina juncea*.

[2] The Naturalist in Bermuda: A Sketch of the Geology, Zoology, and Botany of that remarkable Group of Islands, by John Mathew Jones, Esq.

[3] *Proceedings and Transactions of the Nova Scotia Institute of Natural Science*, October 1873.

[4] Ueber die Vegetations-Verhältnisse der Bermudas-Inseln, Vortrag gehalten beim Jahresfeste der Senckenb. Naturf.-Gesellsch., 1873. *Bericht der Senckenb. Naturf.-Gesellsch.*, 1873, pp. 131–153. Dr J. J. Rein.

[5] *Journ. Linn. Soc. Lond.*, vol. xiv. pp. 317–321.

TABLE *Showing the Composition of the Wild Flora of the Bermudas.*[2]

Orders.	Genera.	Species.		Orders.	Genera.	Species.	
		Total.	Probably Indigenous.			Total.	Probably Indigenous.
1. Ranunculaceæ	1	2	...	41. Apocynaceæ	1	1	...
2. Papavareaceæ	2	2	...	42. Asclepiadeæ	1	1	...
3. Fumariaceæ	1	2	...	43. Loganiaceæ	1	1	...
4. Cruciferæ	10	11	1	44. Gentianeæ	1	1	...
5. Caryophyllaceæ	3	5	1	45. Hydrophyllaceæ	1	1	1
6. Portulaceæ	2	2	1	46. Boragineæ	2	2	2
7. Tamariscineæ	1	1	...	47. Convolvulaceæ	3	9	7
8. Hypericineæ	1	1	1	48. Solanaceæ	5	7	...
9. Guttiferæ	1	1	...	49. Scrophularineæ	6	9	1
10. Malvaceæ	7	9	4	50. Bignoniaceæ	1	1	...
11. Sterculiaceæ	1	1	...	51. Verbenaceæ	8	10	6
12. Tiliaceæ	2	4	2	52. Labiatæ	8	10	...
13. Geraniaceæ	2	3	...	53. Plantaginaceæ	1	3	...
14. Linaceæ	1	1	...	54. Nyctagineæ	2	2	...
15. Aurantiaceæ	1	2	...	55. Amarantaceæ	1	2	...
16. Simarubeæ	1	1	1	56. Chenopodiaceæ	4	5	2
17. Meliaceæ	2	2	...	57. Polygonaceæ	3	4	2
18. Ilicineæ	1	1	...	58. Piperaceæ	1	1	1
19. Celastrineæ	1	1	1	59. Euphorbiaceæ	6	11	2
20. Ampelideæ	1	1	1	60. Urticaceæ	6	10	6
21. Sapindaceæ	3	4	3	61. Myricaceæ	1	1	1
22. Anacardiaceæ	1	1	1	62. Ceratophylleæ	1	1	1
23. Leguminosæ	15	20	6	63. Orchideæ	1	1	1
24. Crassulaceæ	1	1	...	64. Amaryllideæ	2	2	...
25. Rhizophoreæ	1	1	1	65. Irideæ	1	1	1
26. Combretaceæ	1	1	1	66. Liliaceæ	2	3	...
27. Myrtaceæ	3	3	1	67. Commelinaceæ	1	1	1
28. Onagrarieæ	3	4	1	68. Juncaceæ	1	2	2
29. Passifloreæ	1	1	...	69. Palmeæ	1	1	1
30. Cucurbitaceæ	1	1	...	70. Typhaceæ	1	1	1
31. Cactaceæ	1	4	2	71. Lemnaceæ	1	2	2
32. Ficoideæ	1	1	1	72. Naiadaceæ	2	2	2
33. Umbelliferæ	8	10	2	73. Cyperaceæ	8	15	15
34. Rubiaceæ	10	11	6	74. Gramineæ	16	24	9
35. Valerianeæ	2	2	...	75. Coniferæ	1	1	1
36. Compositæ	17	29	11	76. Lycopodiaceæ	1	1	1
37. Goodenovieæ	1	1	1	77. Equisetaceæ	1	1	1
38. Plumbagineæ	1	1	1	78. Filices	10	22	22
39. Primulaceæ	1	1	...				
40. Oleaceæ	3	3	1	Totals	231	326	144

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[1] Any plant that appears to have reached the island independently of the direct or indirect agency of man is treated as indigenous, even such as are of quite casual occurrence.

[2] Restricted to the vascular plants.

In a flora of 326 species, belonging to 231 genera and 78 orders, there is a probably indigenous element, consisting of 144 species, belonging to 109 genera and 50 orders.[1]

A further analysis of this indigenous element yields the following statistics :—

	Orders.	Genera.	Species.
Dictyledons	37	74	85
Monocotyledons	10	23	35
Vascular Cryptogams	3	12	24
	50	109	144

The remarkably large proportion of orders and genera represented by the 145 probably indigenous species is interesting. Similar proportions exist in most of the other islands and islets whose vegetation is dealt with in this work; indeed, a large ordinal and generic diversity is a characteristic of insular floras. A parallel is offered on the eastern side of the Atlantic by the flora of the Azores, where, in a total area of about 700 square miles, only 478 species have been collected, and these represent eighty orders, or an average of six species to an order. The average for all Europe, according to Watson,[2] is seventy-four species to the order; and for the British Islands, between fourteen and fifteen species. On the other hand, the proportions of orders and genera to species in the flora of North America, especially of Eastern, are widely different, whether we take the Northern or the Southern States. Thus a rough calculation of the flora of the area covered by Gray's Manual gives less than twenty species to an order.

A glance at the general geographical distribution of the species forming the flora of the Bermudas, as set forth in the following table, is sufficient to enable us to point to its origin.

[1] The Bermudan cellular cryptogams are still imperfectly known. Including a few endemic species, the following are the numbers in this work :—

	Species.
Musci	8
Hepaticæ	6
Lichenes	31
Fungi	24
Algæ	132
Total	201

[2] In Godman's Natural History of the Azores, p. 265.

Tabular View of the Geographical Distribution of the Vascular Plants probably Indigenous in the Bermudas.

Name.	General Geographical Distribution.				Name.	General Geographical Distribution.			
	South-Eastern N. America.	West Indies.	Widely Dispersed.	Specially Littoral.		South-Eastern N. America.	West Indies.	Widely Dispersed.	Specially Littoral.
Cakile æqualis	×	×	...	×	Tournefortia gnaphalodes	×	×	...	×
Arenaria alsinoides	×	×	...	...	Heliotropium curassavicum	×	×	...	...
Montia fontana	...	...	×	...	Ipomœa jamaicensis	...	×	...	...
Ascyrum hypericoides	...	×	...	...	Ipomœa acuminata	...	×	...	...
Sida carpinifolia	×	×	×	...	Ipomœa pes-capræ	×	×	×	×
Modiola multifida	×	×	...	...	Ipomœa sagittata	×	...	...	...
Kosteletzkya virginica	×	...	...	...	Ipomœa villosa	...	×	...	...
Hibiscus tiliaceus	×	×	×	×	Convolvulus jamaicensis	...	×	...	...
Triumfetta semitriloba	×	×	×	...	Dichondra repens	×	×	×	...
Waltheria americana	×	×	×	...	Herpestis monniera	×	×	×	...
Suriana maritima	×	×	×	×	Phryma leptostachya	×	...	...	...
Elæodendron xylocarpum	...	×	...	...	Lippia nodiflora	×	×	×	...
Ampelopsis quinquefolia	×	...	...	...	Stachytarpheta jamaicensis	×	×	...	...
Cardiospermum halicacabum	×	×	×	...	Priva echinata	×	×	...	...
Sapindus saponaria	...	×	...	...	Duranta plumieri	×	×	...	...
Dodonæa viscosa	×	×	×	...	Avicennia nitida	×	×	...	...
Rhus toxicodendron	×	...	...	...	Atriplex cristata	...	×	...	...
Centrosema virginianum	×	×	...	...	Salicornia ambigua	×	×	...	×
Sophora tomentosa	×	×	...	×	Polygonum acre	×	×	...	...
Vigna luteola	×	×	...	×	Coccoloba uvifera	×	×	...	...
Canavalia obtusifolia	×	×	×	×	Peperomia magnoliæfolia	...	×	...	...
Desmanthus virgatus	×	×	...	...	Euphorbia buxifolia	×	×	...	×
Leucæna glauca	×	×	×	...	Croton maritimus	×	×	...	×
Conocarpus erectus	×	×	...	×	Celtis occidentalis	×	...	...	...
Rhizophora mangle	×	×	...	×	Urtica chamædryoides	×	...	...	...
Eugenia monticola	×	×	...	...	Bœhmeria cylindrica	×	×	...	...
Ludwigia repens	×	×	...	...	Parietaria debilis	×	×	×	...
Opuntia pes-corvi[1]	×	...	...	...	Parietaria pennsylvanica	×	...	...	...
Opuntia ficus-indica	×	×	...	...	Pilea microphylla	×	×	...	...
Sesuvium portulacastrum	×	×	×	×	Myrica cerifera	×	×	...	...
Hydrocotyle asiatica	×	×	×	...	Ceratophyllum demersum	×	×	×	...
Hydrocotyle umbellata	×	×	...	...	Juniperus bermudiana	...	×	...	...
Rhachicallis rupestris	...	×	...	...	Spiranthes tortilis	...	×	...	...
Randia aculeata	×	×	...	...	Sisyrinchium bermudiana	...	...	...	...
Chiococca racemosa	×	×	...	...	Commelina nudiflora	×	×	×	...
Morinda royoc	×	×	...	...	Juncus tenuis	×	×	...	...
Psychotria undata	×	×	...	...	Juncus marginatus	×	...	...	...
Galium uniflorum	×	...	...	...	Sabal blackburniana	...	...	...	...
Eupatorium fœniculaceum	×	...	...	...	Typha angustifolia	...	×	×	...
Solidago sempervirens	×	...	...	...	Lemna minor	×	×	×	...
Solidago stricta	×	...	...	...	Lemna trisulca	...	×	×	...
Erigeron darrellianus	...	...	...	...	Ruppia maritima	×	×	×	...
Baccharis glomeruliflora	×	...	...	...	Zostera marina	×	...	×	...
Pluchea odorata	×	×	...	...	Cyperus odoratus	...	×	...	...
Pluchea purpurascens	×	×	...	...	Cyperus rotundus	...	×	×	...
Pluchea camphorata	×	...	...	...	Kyllinga monocephala	×	×	×	...
Eclipta erecta	×	×	...	...	Heleocharis capitata	×	×	×	...
Borrichia arborescens	×	×	...	×	Heleocharis melanocarpa	×	...	...	...
Borrichia frutescens	×	×	...	×	Heleocharis plantaginea	×	×	...	...
Scævola lobelia	×	×	×	×	Dichromena leucocephala	×	×	...	...
Statice lefroyi	...	...	...	...	Dichromena pura	...	×	...	...
Forestiera porulosa	×	×	...	...	Scirpus lacustris	×	×	...	...
Nama jamaicense	×	×	...	...	Rhynchospora florida	...	×	...	...

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[1] Although four species of the genus are included in this enumeration, only two are given here, as it is probable that there are no more than two indigenous.

Name.	General Geographical Distribution.			
	South-Eastern N. America.	West Indies.	Widely Dispersed.	Specially Littoral.
Rhynchospora stipitata	×	...	...	...
Rhynchospora sp.	...	...	...	...
Rhynchospora sp.	...	...	...	...
Cladium mariscus	×	×	×	...
Carex bermudiana	...	...	...	...
Paspalum distichum	×	×	×	...
Paspalum filiforme	×	×	...	...
Paspalum setaceum	×	...	...	...
Cenchrus tribuloides	×	×	×	×
Spartina juncea	×	...	...	...
Stenotaphrum americanum	×	×	×	×
Sporobolus indicus	×	×	×	×
Sporobolus virginicus	×	×	×	×
Chloris petræa	×	×	...	...
Psilotum triquetrum	×	×	×	×
Equisetum sp.	...	...	...	...
Adiantum bellum	...	...	...	...
Pteris aquilina	×	×	×	...
Pteris heterophylla	...	×	...	...
Woodwardia virginica	×	×	...	...
Asplenium dentatum	×	×	...	...
Asplenium laffanianum	...	...	...	...
Asplenium rhizophyllum	×	×	×	...
Asplenium trichomanes	×	×	×	...
Aspidium coriaceum	...	×	×	...
Aspidium aculeatum	×	×	×	...
Nephrodium amplum	...	×	...	...
Nephrodium bermudianum	...	...	...	...
Nephrodium patens	×	×	×	...
Nephrodium molle	...	×	×	...
Nephrodium thelypteris	×	...	×	...
Nephrodium villosum	...	×	...	...
Nephrolepis exaltata	×	×	×	...
Polypodium pectinatum	×	×	...	...
Polypodium elasticum	×	×	...	...
Acrostichum aureum	×	×	...	...
Osmunda cinnamomea	×	×	...	...
Osmunda regalis	×	...	×	...

From this table we learn that 109 species of the Bermudan flora also inhabit South-Eastern North America, and within one of the same number inhabit the West Indies. Further, eighty-six of the Bermudan plants are common to the West Indies and continental North America, or at least reach the keys of Florida. It is only a comparatively small number of the eighty-six that does not reach the mainland of Florida, where there is a much greater overlapping of the essentially North American and the West Indian elements than was formerly suspected. A considerable number of the species common to the West Indies and North America are as much at home on the coast of the South-Eastern States as they are in the West Indies; yet the bulk of these are West Indian types, and not found north of Florida on the continent.

To add to these there are twenty-three West Indian species in the Bermudas not hitherto recorded, to our knowledge, from North America. They are:—

Ascyrum hypericoides,[1] *Elæodendron xylocarpum, Sapindus saponaria, Rhachicallis rupestris, Ipomœa jamaicensis, Ipomœa acuminata, Ipomœa villosa, Convolvulus jamaicensis, Atriplex cristata, Peperomia magnoliæfolia, Juniperus bermudiana, Spiranthes tortilis, Typha angustifolia, Lemna trisulca, Cyperus odoratus, Cyperus rotundus, Dichromena pura, Rhynchospora florida, Pteris heterophylla, Aspidium coriaceum, Nephrodium amplum, Nephrodium molle, Nephrodium villosum.*

Most of the foregoing are represented in North America by closely allied species, and some of them may yet be discovered in Florida. *Sapindus saponaria* is recorded by Sir J. H. Lefroy as having sprung up from seed cast ashore in the Bermudas. The most noteworthy plants in the above list, because they are as much indigenous as any of the plants, are *Elæodendron*, *Rhachicallis*, *Juniperus*, and the *Spiranthes*, to which might be added, perhaps, the *Atriplex* and the *Peperomia*. *Rhachicallis* is a very singular little shrub, inhabiting rocky sea-shores from Cuba and Jamaica to the Bahamas; and it is one of the characteristic plants of the Bermudan flora. The most remarkable plant, however, is the orchid, *Spiranthes*. Orchids are exceedingly rare in remote islands and islets, and much rarer, generally speaking, in islands nearer continents than on the continents themselves; and this is the only one with which we have to deal in the vegetation of the islands of the Atlantic and South Indian Oceans. In the Azores there are only three species, two of which are endemic.

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[1] Represented in South-Eastern North America by the closely allied *Ascyrum crux-andreæ.*

From the figures given in the preceding table it will be seen that there is an equal number (twenty-three) of North American plants which are apparently indigenous in the Bermudas, but do not extend to the West Indies. These are:—

Kosteletzkya virginica, Ampelopsis quinquefolia, Rhus toxicodendron, Opuntia pes-corvi? Galium uniflorum, Eupatorium fœniculaceum, Solidago sempervirens, Solidago stricta, Baccharis glomeruliflora, Pluchea camphorata, Ipomœa sagittata, Phryma leptostachya, Celtis occidentalis, Urtica chamædryoides, Parietaria pennsylvanica, Juncus marginatus, Zostera marina? Heleocharis melanocarpa, Rhynchospora stipitata,[1] *Paspalum setaceum, Woodwardia virginica, Nephrodium thelypteris,* and *Osmunda regalis.*

This North American element in the flora may be partly due to the agency of man; but the majority of the species inhabit salt marshes and the sea-shore of the mainland, and similar situations in the islands. *Rhus toxicodendron* is one of the plants mentioned by the earliest visitors as inhabiting the islands; and the *Baccharis*, *Pluchea*, *Juncus*, *Heleocharis*, *Rhynchospora*, and the ferns are all plants unlikely to have been introduced by man, either accidentally or purposely. Besides, the localities in which they occur point to their being truly indigenous.

WIDELY DISPERSED SPECIES.

Of the 144 species comprising the indigenous flora, some forty-six are widely dispersed, by which is meant that, independently of their distribution in the New World, they extend to some part of the Old. Many of them are generally diffused in warm regions, especially the purely maritime plants. There can be no doubt that many of the latter class owe their present wide range to the action of the sea itself.

ENDEMIC PLANTS.

As compared with other islands in similar and different latitudes and similarly situated in relation to the nearest continents, the flora of the Bermudas is singularly poor in endemic species. This peculiarity, it is true, is almost as strikingly exemplified in the flora of the Azores, the nearest of which is about 900 miles distant from the mainland of Western Europe. In this flora of 478 species, only thirty-nine, or about one-twelfth, are endemic; and most of these, like the Bermudan endemic species, are so closely allied to continental ones that they may be regarded as derivatives of them. About half-a-dozen of them are more closely related to Madeiran species than European; and one only, the very rare *Campanula vidalii*, is so very distinct from all other known species as to suggest the possibility of its being the remains of a more ancient flora. One, *Solidago azorica*, proves to be identical with *Solidago sempervirens*, a native of the east coast of North America, and apparently indigenous in the Bermudas. In the following enumeration we have entered into the details of the distribution of this plant; and although it was cultivated in Europe in Linnæus's time, and may possibly have been introduced into the Azores, we are of opinion that the probabilities of its being indigenous are at least as great as those of *Eriocaulon septangulare*, *Spiranthes romanzoviana*, and one or two other, otherwise exclusively North American plants, being indigenous in Ireland. Moreover, there is a similar instance in the South Atlantic. Thus *Asplenium compressum*, which was formerly supposed to be endemic in St Helena, was one of the few plants collected by Dr Copeland in South Trinidad during a short excursion in the island in 1873.[1]

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[1] A plant only recently discovered in Florida, and described in the Supplement to Chapman's Flora of the Southern United States.

The endemic element in the flora of the Bermudas, as far as it is at present known, is limited to eight species, namely, *Erigeron darrellianus*, *Statice lefroyi*, *Sisyrinchium bermudiana*, *Sabal blackburniana?* *Carex bermudiana*, *Adiantum bellum*, *Asplenium laffanianum* and *Nephrodium bermudianum*. In the body of the work, the affinities, &c., of each species are fully discussed, and it is shown that closely allied species inhabit either South-Eastern North America or the West Indies. It is still uncertain whether the palm (*Sabal*) is endemic or common to some of the West Indian Islands. The only indication of a possibly older flora is offered by the *Carex*, which is most nearly related to the endemic species of the Island of St Helena. Only one imperfect specimen of it has been seen, however, and that was collected by J. Dickinson about the year 1699. Thus it will be seen that we have similar characteristics in the flora of the volcanic Azores and the coralline Bermudas.

INDIGENOUS PLANTS PROMINENT IN THE PRESENT VEGETATION OF THE ISLANDS.

Already allusion has been made to the all-pervading cedar (*Juniperus*), and its prominent though by far less numerously represented associate, the palmetto (*Sabal*). Next to the cedar some of the introduced plants are certainly more conspicuous and more generally diffused than any of the other indigenous species, and only a small number of the latter are really abundant. From documentary and other evidence the following thirty-seven indigenous plants appear to be common, or even abundant, and in little present danger of being overrun and extirpated by the introduced element:—

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[1] What is known of the vegetation of this islet follows the flora of St Helena in this work.

Cakile æqualis, Sida carpinifolia, Dodonæa viscosa, Rhus toxicodendron, Canavalia obtusifolia, Leucæna glauca, Rhizophora mangle, Conocarpus erectus, Opuntia, Sesuvium portulacastrum, Rhachicallis rupestris, Chiococca racemosa, Borrichia arborescens, Scævola lobelia, Tournefortia gnaphalodes, Ipomæa pes-capræ, Avicennia nitida, Salicornia ambigua, Euphorbia buxifolia, Croton maritimus, Myrica cerifera, Juniperus bermudiana, Sisyrinchium bermudiana, Sabal blackburniana, Typha angustifolia, Cladium mariscus, Cenchrus tribuloides, Spartina juncea, Stenotaphrum americanum, Sporobolus indicus, Sporobolus virginicus, Chloris petræa, Adiantum bellum, Pteris aquilina, Pteris heterophylla, Acrostichum aureum and *Osmunda regalis.*

Of the foregoing plants, those characteristic of the different parts of the coast are:—

Cakile, Dodonæa, Canavalia, Rhizophora, Conocarpus, Sesuvium, Rhachicallis, Chiococca, Borrichia, Scævola, Tournefortia, Ipomæa, Avicennia, Salicornia, Euphorbia, Croton, and several of the grasses, of which *Cenchrus tribuloides* is the commonest, acting as the principal sand-binding plant on the dunes.

Among the commoner plants of the marshes or bays are *Rhus, Myrica, Sisyrinchium, Cladium, Pteris aquilina, Acrostichum aureum,* and *Osmunda regalis.*

INTRODUCED PLANTS PROMINENT IN THE PRESENT VEGETATION OF THE ISLANDS.

In the first rank of this category comes *Lantana camara* and *Lantana involucrata,* the sage bushes of the islanders. Nearly the whole country where uncultivated is covered with a dense growth of these shrubs, which were originally introduced about a century ago to supply firewood. Such vigour and power of spreading do these shrubs possess, that they threaten the extinction of many of the rare indigenous plants. Mr Oswald A. Reade, writing of the vegetation of an undisturbed part of Boaz Island in a recent communication, states that the sage bush and oleander had penetrated there, and were likely soon to overpower the native shrubs in the struggle for existence. The oleander (South-Sea-rose of the islander) indeed is a hardly less formidable enemy to the native vegetation than the sage bushes. It grows with extraordinary rapidity in the moister parts of the islands bordering the marshes, &c., but it is also capable of spreading in dry places, where, however, it forms a dwarf much-branched bush.

Of the less destructive, though hardly less common, introduced plants, are *Argemone mexicana, Portulaca oleracea, Oxalis corniculata, Bryophyllum calycinum, Fœniculum vulgare, Ageratum conyzoides, Cichorium intybus, Anagallis arvensis, Asclepias curassavica, Verbascum thapsus, Lippia nodiflora, Stachytarpheta jamaicensis, Salvia coccinea, Plantago major, Plantago lanceolata,* and *Euphorbia* spp.

Concluding Remarks.

From its composition it is evident that the present flora of the Bermudas is of comparatively recent derivation, though not so recent, perhaps, as might at first be supposed. Whence it was derived, the foregoing tables and explanations sufficiently show. Briefly, it is not of purely West Indian origin, but was derived from the West Indies and that region of south-eastern North America where the West Indian and North American types of vegetation overlap each other. Whether it was formerly richer in indigenous, and possibly in endemic species, is problematical; but the extreme rarity of many of the indigenous species at the present time seems to indicate that such may have been the case, though the probability remains of their being casual introductions unable to spread. That the islands were ever clothed with a more ancient flora is unlikely from what has come to light through excavations, dredging, and other operations.

The peat or peaty mud of the marshes consists of the remains of ferns, sedges, and other plants which still inhabit them. It is of great depth in places, and in it are sometimes found trunks of the cedar of a larger size than any of those now growing in the islands. In 1872 Sir J. H. Lefroy, then governor of the islands, caused some borings to be made in Pembroke Marsh, the deepest of which was forty-six feet; and these borings afforded evidence that the peaty mud reached to the limestone bed of the marsh basin. From Mr Oswald A. Reade we learn that a great deal of dredging has lately been done in Hospital Bay; and it is surprising, he says, what a number of trunks of cedar have been brought up, and in such good preservation too, that it would seem the "greater Bermuda" had not been so very long submerged. They were covered with a layer of peat, and over that foraminifera, &c. Under such conditions, of course, the trunks would be almost imperishable.

The means for conveying seeds from the West Indies and Continental America to the Bermudas are so obvious, that it seems almost superfluous to discuss them. From actual observation it is known that seeds cast ashore by the waves have germinated and grown into plants; and the numerous birds that visit the islands can hardly fail to convey seeds in their claws, feathers, or excrement. The seeds or seed-vessels of the majority of the Bermudan plants may be classified in three or four categories—(1.) Large seeds, like many of the *Leguminosæ* and *Ipomœa pes-capræ*, that will bear immersion in sea-water for a considerable period without losing their vitality; (2.) small seeds or seed-vessels, such as the *Cyperaceæ*, some of the *Compositæ*, &c., that might be conveyed in small patches of mud adhering to the claws of marsh birds; (3.) seed-vessels having a fleshy envelope, and containing hard seeds that pass through the alimentary canal of a bird without injury: nearly all the woody plants in the island have seed-vessels or fruits of this kind; (4.) seed-vessels furnished with hooked appendages, by which they become attached to other objects. There are few of the last kind in the Bermudan flora, *Triumfetta* being the most striking example. Absence of winged fruits, as *Compositæ*, which form so great an element in the North American flora, is remarkable.

A constitutional property exhibited by the only two common woody plants of arboreous habit, the cedar and the palmetto, deserves mentioning, as it accounts for their being able to maintain their preponderance against all comers. It is an extraordinary power of reproduction from seed, rendered certain by the protection of the seed itself—in the one case by an indurated testa, and in the other by an exceedingly dense endosperm. Seed is borne in great abundance and of a high degree of fertility by both; and ground that is left uncultivated is speedily clothed with seedlings of the cedar.

The whole question of the origin of insular floras will be more fully discussed in the general introduction to the Botanical Reports of the Challenger Expedition.

ENUMERATION OF THE PLANTS.

PHANEROGAMÆ.—ANGIOSPERMÆ.

DICOTYLEDONES.—POLYPETALÆ.

RANUNCULACEÆ.

Ranunculus muricatus, Linn.

Ranunculus muricatus, Linn., Sp. Pl., ed. 1, p. 555; Chapm., Fl. Southern U.S., p. 7.

Bermudas.—Introduced. Ditches and roadsides—*Lane; Jones; Lefroy; Moseley.*

An annual, common in Southern Europe and some parts of Asia, and now very widely spread as an introduced plant in America, Australia, &c.

Ranunculus parviflorus, Linn.

Ranunculus parviflorus, Linn., Sp. Pl., ed. 2, p. 780; Griseb., Fl. Brit. W. Ind., p. 2.

Bermudas.—Introduced. In similar situations to the last—*Lane; Jones; Rein; Lefroy; Moseley.*

This species is also an annual, and is now found in nearly all temperate and subtropical countries. They are both weeds of pasture rather than corn-land, and were early introduced into America, whence they may have been carried to the Bermudas.

PAPAVERACEÆ.

Argemone mexicana, Linn.

Argemone mexicana, Linn., Sp. Pl., ed. 1, p. 508; Griseb., Fl. Brit. W. Ind., p. 13; Desc., Fl. Ant., v. t. 380.

Bermudas.—Introduced. Very common—*Lane; Jones; Rein; Lefroy; Moseley.*

Annual. Almost universal in warm countries.

Papaver somniferum, Linn.

Papaver somniferum, Linn., Sp. Pl., ed. 1, p. 508; Gray, Manual, ed. 5, p. 59.

Bermudas.—Introduced. Occasionally as an escape from cultivation—*Lane; Jones; Lefroy.*

Cultivated and wild in many parts, especially of the Old World, but it is uncertain where it is really indigenous.

In Reade's collection there was a specimen of *Papaver dubium*, Linn.

FUMARIACEÆ.

Fumaria officinalis, Linn.

Fumaria officinalis, Linn., Sp. Pl., ed. 1, p. 790; Gray, Manual, ed. 5, p. 62.

BERMUDAS.—Introduced. Waste places—*Lane; Jones; Rein.*

An annual weed of cultivation that has spread from Europe.

Fumaria capreolata, Linn.

Fumaria capreolata, Linn., Sp. Pl., ed. 1, p. 701 var. *muralis*, Sonder in Koch, Fl. Germ., ed. 2, p. 1017 (species).

BERMUDAS.—Introduced. Without locality or remark—*Moseley; Reade.*

This also is of European origin.

CRUCIFERÆ.

Matthiola incana, R. Br.

Matthiola incana, R. Br. in Ait. Hort. Kew, ed. 2, iv. p. 119; DC., Prodr., i. p. 132.

BERMUDAS.—Introduced. Wild among the rocks on the sea-shore—*Jones; Lefroy; Moseley; Reade.*

It is noteworthy that this South European stock has established itself on the islands.

Nasturtium officinale, R. Br.

Nasturtium officinale, R. Br. in Ait. Hort. Kew, ed. 2, iv. p. 110; Chapm., Fl. Southern U.S., p. 25; Griseb., Fl. Brit. W. Ind., p. 13.

BERMUDAS.—Introduced. Pembroke Marsh—*Lefroy.*

Perennial. The watercress is a native of Europe, Western Asia, and North Africa, now naturalised in many other countries. In New Zealand, where also it is a colonist, it attains, or formerly attained, such enormous dimensions as to choke the rivers.

Alyssum maritimum, Lam.

Alyssum maritimum, Lam., Dict., i. p. 98; Gray, Manual, ed. 5, p. 72.

BERMUDAS.—Introduced. Waste places, common—*Moseley; Reade.*

Annual or perennial. A native of the South of Europe and Western Asia.

Sisymbrium officinale, Scop.

Sisymbrium officinale, Scop., Fl. Car., ii. p. 26; Chapm., Fl. Southern U.S., p. 28; Griseb., Fl. Brit. W. Ind., p. 13.

BERMUDAS.—Introduced. Roadsides—*Lefroy; Moseley; Reade.*

Annual or perennial. Native of Europe, Western Asia, and North Africa. It is also colonised in the Southern States of North America.

Brassica sinapistrum, Boiss.

Brassica sinapistrum, Boiss., Voy. Bot. dans le midi de l'Espagne, ii. p. 39; Gray, Manual, ed. 5, p. 70.
Sinapis arvensis, Linn., Sp. Pl., ed. 1, p. 668.

BERMUDAS.—Introduced. Roadsides and waste places—*Lefroy.*

Annual. A very common weed of cultivation in Europe, Temperate Asia, and North Africa, and introduced in many other countries.

Capsella bursa-pastoris, Mœnch.

Capsella bursa-pastoris, Mœnch., Meth. Pl., p. 271; Griseb., Fl. Brit. W. Ind., p. 14; Chapm., Fl. Southern U.S., p. 30.

BERMUDAS.—Introduced. In cultivated and waste ground—*Lane; Rein; Lefroy.*

Annual. One of the commonest weeds of cultivation in temperate and sub-tropical regions throughout the world.

Senebiera pinnatifida, DC.

Senebiera pinnatifida, DC., Prodr., i. p. 203; Griseb., Fl. Brit. W. Ind., p. 14; Chapm., Fl. Southern U.S., p. 30.

BERMUDAS.—Introduced. Without indication of locality—*Rein.*

A common herb in the warm temperate regions of America, and naturalised in other countries.

Lepidium virginicum, Linn.

Lepidium virginicum, Linn., Sp. Pl., p. 645; Griseb., Fl. Brit. W. Ind., p. 14; Chapm., Fl. Southern U.S., p. 30.

BERMUDAS.—Introduced. Common in waste ground—*Jones; Lefroy.*

A North American annual, now naturalised in many countries. "Pepper-grass" of the islanders.

Lepidium ruderale, Linn.

Lepidium ruderale, Linn., Sp. Pl., ed. 1, p. 645; Gray, Manual, ed. 5, p. 74.

BERMUDAS.—Introduced. Roadsides, scarce—*Lane;* common—*Reade.*

Annual. Europe and Asia, and introduced in many other countries.

Cakile æqualis, L'Herit.

Cakile æqualis, L'Herit., in DC. Prodr., i. p. 185; Deless. Ic. Sel., ii. t. 57; Griseb., Fl. Brit. W. Ind., p. 14.

Cakile maritima, Scop., var. *æqualis*, Chapm., Fl. Southern U.S., p. 31.

BERMUDAS.—Indigenous. Common on the shores of the islands—*Lefroy*; *Moseley*.

A maritime herb inhabiting the West Indies from Cuba to St Vincent and the Bahamas, and the Southern States of North America.

The European *Cakile maritima* is perhaps not specifically different. This is the scurvy-grass of the islanders, and most likely the plant named *Cochlearia officinalis* in Jones's list.

Raphanus raphanistrum, Linn.

Raphanus raphanistrum, Linn., Sp. Pl., ed. 1, p. 669; Gray, Manual, ed. 5, p. 75.

BERMUDAS.—Introduced. Without any note—*Moseley*; *Reade*.

A weed of Europe, naturalised in many countries.

CARYOPHYLLACEÆ.

Cerastium vulgatum, Linn.

Cerastium vulgatum, Linn., Sp. Pl., ed. 2, p. 627; Chapm., Fl. Southern U.S., p. 50; Gray, Manual, ed. 5, p. 93.

BERMUDAS.—Introduced. Cultivated ground—*Moseley*; *Reade*.

A very common annual weed of cultivation in temperate and sub-tropical climates.

Cerastium viscosum, Linn.

Cerastium viscosum, Linn., Sp. Pl., ed. 1, p. 437; Griseb., Fl. Brit. W. Ind., p. 55; Chapm., Fl. Southern U.S., p. 50.

BERMUDAS.—Introduced. Without locality—*Lane*.

Also a very widely-dispersed annual weed.

Stellaria media, Cyr.

Stellaria media, Cyr., Char. Comm., p. 36; Griseb., Fl. Brit. W. Ind., p. 55; Chapm., Fl. Southern U.S., p. 50.

BERMUDAS.—Introduced. Cultivated ground—*Lane*; *Rein*; *Moseley*.

A very widely-dispersed annual in temperate regions.

Arenaria serpyllifolia, Linn.

Arenaria serpyllifolia, Linn., Sp. Pl., ed. 1, p. 463; Chapm., Fl. Southern U.S., p. 49.

BERMUDAS.—Introduced. A common weed—*Lefroy*; *Reade*.

Widely dispersed in the Old World, and introduced in North America.

Arenaria alsinoides, Willd.

Arenaria alsinoides, Willd., in Mag. Gesellsch. Naturf. Freunde Berl., vii. p. 196, et Sp. Pl., vi. p. 35.
Arenaria nemorosa, H. B. K., Nov. Gen. et Sp., vi. p. 35.
Arenaria diffusa, Elliot, Bot. S. Carol., i. p. 519; Chapm., Fl. Southern U.S., p. 49; Griseb., Fl. Brit. W. Ind., p. 55.
Stellaria lanuginosa, Torr. and Gray, Fl. N. Am., i. p. 167.

BERMUDAS.—Indigenous. Paynter's Vale—*Lefroy;* without locality—*Moseley.*

A common American plant, ranging from North Carolina through the West Indies and Mexico to Peru and Bolivia.

PORTULACEÆ.

Montia fontana, Linn.

Montia fontana, Linn., Sp. Pl., ed. 1, p. 87; Hemsl. in Godm. and Salv., Biolog. Centr.-Am., i. p. 31.

BERMUDAS.—Indigenous? Without locality—*Lefroy.*

A marsh plant having an exceedingly wide range, both in the Old World and in America, though strange to say it appears to be absent from the Eastern States of North America and the West Indies. It is a common element in remote islets where the necessary moisture exists.

Portulaca oleracea, Linn.

Portulaca oleracea, Linn., Sp. Pl., ed. 1, p. 445; Chapm., Fl. Southern U.S., p. 44; Griseb., Fl. Brit. W. Ind., p. 57.

BERMUDAS.—Introduced. A common weed in cultivated ground—*Jones.*

In all tropical and most sub-tropical regions. We have seen no Bermudan specimens of this plant, but we have no reason for doubting its presence in the islands. See the observations on its distribution in the following account of the plants found in the Island of Ascension.

TAMARISCINEÆ.

Tamarix gallica, Linn.

Tamarix gallica, Linn., Sp. Pl., ed. 1, p. 270; DC., Prodr., iii. p. 96.

Common on the north shore near the Flatts—*Jones;* common—*Moseley; Lefroy; Reade.*

This Old World seaside shrub has thoroughly established itself in the Bermudas, where it is called "Spruce."

HYPERICINEÆ.

Ascyrum hypericoides, Linn.

Ascyrum hypericoides, Linn., Sp. Pl., ed. 1, p. 788; Griseb., Fl. Brit. W. Ind., p. 112.

BERMUDAS.—Introduced. Marshes—*Lane; Jones; Rein; Lefroy; Moseley; Reade.*

West Indies and Mexico to New Granada.

The "Hypericum" (?) of Jones's list is doubtless this plant.

Ascyrum crux-andreæ, Linn. of the Eastern States of N. America is very closely allied.

GUTTIFERÆ.

Calophyllum calaba, Jacq.

Calophyllum calaba, Jacq., Sel. Stirp. Amer., p. 269, t. 165; Griseb., Fl. Brit. W. Ind., p. 108.

BERMUDAS.—Introduced. Common in hedges—*Lefroy;* fine examples of this tree on the roadside in Devonshire parish—*Jones.*

Introduced from the West Indies, where, as well as in South America, it has a wide range.

MALVACEÆ.

Malva parviflora, Linn.

Malva parviflora, Linn., Amœn. Acad., iii. p. 416; DC., Prodr., i. p. 433.

BERMUDAS.—Introduced. Without memorandum—*Moseley; Reade.*

A domestic weed from the Old World, apparently not naturalised in the United States, though several other closely allied species are.

Sida glomerata, Cav.

Sida glomerata, Cav., Diss., t. 2, fig. 6; Griseb., Fl. Brit. W. Ind., p. 73.

BERMUDAS.—Introduced. Without locality or memorandum—*Moseley.*

Half-shrub. Common in the West Indies, Mexico, and the northern part of South America.

Sida carpinifolia, Linn.

Sida carpinifolia, Linn., fil., Sp. Pl. Suppl., p. 307; Griseb., Fl. Brit. W. Ind., p. 73.

BERMUDAS.—Indigenous? Very common all over the islands—*Lane; Jones; Lefroy.*

A half-shrubby plant, almost universally spread in Tropical America, Africa, and Asia.

This is the "Wire-weed" of the islanders, and probably reached the islands independently of human agency.

Modiola multifida, Mœnch.

Modiola multifida, Mœnch., Meth. Pl., p. 969; Chapm., Fl. Southern U.S., p. 56.
Malva caroliniana, Linn., Sp. Pl., ed. 1, p. 688.
Modiola caroliniana, G. Don.; Griseb., Fl. Brit. W. Ind., p. 72.

BERMUDAS.—Indigenous? Under walls, &c.—*Lane;* without locality—*Moseley; Reade.*

A half-shrub, inhabiting America from Carolina southward to Chili and Buenos Ayres.

Pavonia spinifex, Cav.

Pavonia spinifex, Cav., Diss., t. 45, figs. 2, 3; Griseb., Fl. Brit. W. Ind., p. 82; Chapm., Fl. Southern U.S., Suppl., p. 608.

BERMUDAS.—Introduced. Only in Southampton parish—*Lefroy.*

A shrub generally dispersed in the West Indies and South America.

Kosteletzkya virginica, Presl.

Kosteletzkya virginica, Presl., ex A. Gray, Gen. Fl. Am. Bor. Ill., ii. p. 80, t. 132; Chapm., Fl. Southern U.S., p. 57.
Hibiscus virginicus, Linn., Sp. Pl., ed. 1, p. 697.

BERMUDAS.—Indigenous. Pembroke Marsh—*Lefroy.*

North America, from New York to Florida. This is a marsh herbaceous plant, and was probably introduced into the islands by birds.

Hibiscus tiliaceus, Linn.

Hibiscus tiliaceus, Linn., Sp. Pl., ed. 1, p. 694; Chapm., Fl. Southern U.S., p. 58; Desc., Fl. Ant., ii. t. 148.
Paritium tiliaceum, St Hil., Fl. Bras. Mer., i. p. 256; Griseb., Fl. Brit. W. Ind., p. 86.

BERMUDAS.—Indigenous? Walsingham—*Lane;* without exact locality—*Moseley.*

A common tree on tropical and sub-tropical sea-shores nearly all over the world.

Hibiscus elatus, Swartz.

Hibiscus elatus, Swartz, Fl. Ind. Occ., ii. p. 1218; Griseb., Fl. Brit. W. Ind., p. 86.

BERMUDAS.—Introduced. Probably nowhere wild in the islands; but it was raised from seed washed ashore many years ago—*Lefroy.*

West Indies. Had this sprung up from seed unaided, it would belong to our category of indigenous.

Thespesia populnea, Solander.

Thespesia populnea, Solander, ex Correa in Ann. Mus. Hist. Nat. Par., ix. p. 290, t. 8, fig. 1; Griseb., Fl. Brit. W. Ind., p. 87.

BERMUDAS.—Introduced. St George—*Lefroy;* without locality—*Jones.*

A common tree on the sea-coasts of Tropical Asia, Africa, Pacific Islands, and North Australia. It is also common in some of the West Indian Islands, though Mr Bentham (*Flora Australiensis*, i. p. 221) states that it was introduced.

STERCULIACEÆ.

Melochia odorata, Linn.

Melochia odorata, Linn., fil., Sp. Pl. Suppl., p. 302; Griseb., Fl. Brit. W. Ind., p. 94.

Bermudas.—Introduced. Pembroke Marsh—*Lefroy.*

A common Pacific island tree, introduced into the West Indies, according to Grisebach. How it reached the Bermudas we are uninformed. We have not seen Lefroy's specimen, but we learn from his memoranda that it was named by Dr Asa Gray.

TILIACEÆ.

Triumfetta lappula, Linn.

Triumfetta lappula, Linn., Sp. Pl., ed. 1, p. 444; Griseb., Fl. Brit. W. Ind., p. 95.
Lappula bermudensis, Pluk., Alm., p. 206, et Phylogr., t. 245, fig. 7.

Bermudas.—Introduced? or perhaps indigenous. Without exact localities—*Lefroy; Moseley.* Also in the British Museum, in Sloane's Herbarium, xcvi. p. 128.

A common weed in the West Indies and Tropical America.

Triumfetta althæoides, Lam.

Triumfetta althæoides, Lam., Encycl., iii. p. 420; Griseb., Fl. Brit. W. Ind., p. 96.

Bermudas.—Introduced? Without locality—*Rein.* Grisebach also records it from the Bermudas, but we have seen no specimen.

West Indies and South America.

Triumfetta semitriloba, Jacq.

Triumfetta semitriloba, Jacq., Sel. Stirp. Amer., p. 147; Linn., Mant., p. 73; Griseb., Fl. Brit. W. Ind., p. 96.

Bermudas.—Indigenous? Walsingham—*Lane; Lefroy.*

Nearly all tropical countries, except perhaps Australia.

This is the "Box-bush" of the islanders.

Waltheria americana, Linn.

Waltheria americana, Linn., Sp. Pl., ed. 1, p. 637; Griseb., Fl. Brit. W. Ind., p. 95.

Bermudas.—Indigenous. Pembroke Marsh—*Lefroy.*

In tropical and sub-tropical regions all round the globe, though not hitherto found in south-eastern North America.

GERANIACEÆ.

Geranium carolinianum, Linn.

Geranium carolinianum, Linn., Sp. Pl., ed. 1, p. 682; Chapm., Fl. Southern U.S., p. 65.

BERMUDAS.—Introduced. Without localities—*Lefroy; Rein; Moseley; Reade.*

This species is common in the United States and Mexico, and is hardly distinct from the widely-diffused *Geranium dissectum*, Linn. Some of the Bermudan specimens bear the latter name.

Geranium pusillum, Linn.

Geranium pusillum, Linn., Sp. Pl., ed. 2, p. 957; Gray, Manual, ed. 5, p. 107.

BERMUDAS.—Introduced. Roadsides—*Lane.*

Europe, North Africa, and Western Asia. Introduced into North America.

Oxalis corniculata, Linn.

Oxalis corniculata, Linn., Sp. Pl., ed. 1, p. 435; Griseb., Fl. Brit. W. Ind., p. 133.

BERMUDAS.—Introduced? Common—*Lefroy; Moseley; Reade.*

An almost ubiquitous plant, excepting in the colder regions; occurring in the most remote islets as well as continental countries. There are several forms.

Oxalis cernua, Thunb.

Oxalis cernua, Thunb., Diss. Ox., n. 12, t. 2, fig. 2; DC., Prodr., i. p. 696.

BERMUDAS.—Introduced. Without locality—*Rein.*

A South African species; now naturalised in many countries.

[*Oxalis acetosella*, Linn., is recorded by Michaux (Ann. Mus. Hist. Nat. Par., viii. p. 358) as being common in the islands; but that is such an unlikely plant to be found, that the name must have been a slip of the pen, probably for *Oxalis corniculata.*]

LINACEÆ.

Linum usitatissimum, Linn.

Linum usitatissimum, Linn., Sp. Pl., ed. 1, p. 277; Gray, Manual, ed. 5, p. 105.

BERMUDAS.—Introduced. Amongst rubbish—*Lane.*

Introduced from Europe, and apparently only casual, as it is not included in recent lists.

AURANTIACEÆ.

Several of the orange family were cultivated by the earliest colonists, and soon spread over the islands in a wild state. Rein includes *Citrus aurantium*, Linn., the sweet orange, and *Citrus medica*, Linn., the citron, in his list. Jones states that *Citrus limetta*, Riss., the lime, grows wild all over the islands. Concerning *Citrus limonum*, Riss., the same authority says: "The common lemon grows wild everywhere, not in such abundance as before the disease of 1854-55, which attacked the lemon as well as the orange. Thousands of fine trees before that date existed throughout the cedar groves, and the fruit was so abundant that it only ripened to fall and rot upon the ground.

SIMARUBEÆ.

Suriana maritima, Linn.

Suriana maritima, Linn., Sp. Pl., ed. 1, p. 284; Griseb., Fl. Brit. W. Ind., p. 58; Lam., Ill. Pl., t. 389; Chapm., Fl. Southern U.S., p. 149.

Bermudas.—Indigenous. South shores, Hungry Bay, &c.—*Rein; Lefroy; Moseley; Reade.*

Very widely spread on the sea-coasts of warm countries, including Florida and the West Indies.

MELIACEÆ.

Melia azedarach, Linn.

Melia azedarach, Linn., Sp. Pl., ed. 1, p. 384; Chapm., Fl. Southern U.S., p. 62.

Bermudas.—Introduced.

The "Pride of India" was introduced into the islands, according to the Hon. J. H. Darrell, from Charleston. In a note to Sir J. Henry Lefroy he says, "I have heard my father say it was brought from Charleston within his recollection—that is, after the peace of 1782."

Swietenia mahagoni, Jacq.

Swietenia mahagoni, Jacq., Sel. Stirp. Amer., p. 127; Chapm., Fl. Southern U.S., p. 62.

Bermudas.—Introduced. The Flatts—*Lefroy.*

Florida, West Indies, and Central America.

"Introduced from the Barbadoes some thirty-five or forty years ago."—*Darrell.*

ILICINEÆ.

Ilex cassine, Linn.

Ilex cassine, Linn., Sp. Pl., ed. 1, p. 125; Chapm., Fl. Southern U.S., p. 269.
Ilex vomitoria, Ait. Hort. Kew, ed. 1, i. p. 170.

BERMUDAS.—Introduced. The Flatts—*Lefroy.*

North America. A coast shrub, ranging from Virginia to Florida.

This is said to have been introduced by Paynter, the grandfather of Captain W. Peniston, in the last century.—*Lefroy.*

CELASTRINEÆ.

Elæodendron xylocarpum, DC.

Elæodendron xylocarpum, DC., Prodr., ii. p. 11; Griseb., Fl. Brit. W. Ind., p. 145.
Elæodendron rotundatum, DC., loc. cit.
Cassine xylocarpa, Vent., Choix, t. 23.

Specimina bermudiana ab iis Indiæ occidentalis differunt foliis angustioribus, deorsum attenuatis, dentibus distincte apiculatis instructis; floribus etiam paullo majoribus—fructus deest.

BERMUDAS.—Indigenous. Walsingham—*Lane;* without localities—*Rein; Moseley; Lefroy.*

West Indies.

The Bermudan plant should perhaps rank as a distinct species, but the specimens are insufficient to settle this point.

AMPELIDEÆ.

Ampelopsis quinquefolia, Michx.

Ampelopsis quinquefolia, Michx., Fl. Bor.-Am., i. p. 160; Chapm., Fl. Southern U.S., p. 72.

BERMUDAS.—Indigenous? Wild at Walsingham—*Lefroy.*

The Virginian creeper extends from Canada to Florida. How it reached the Bermudas we do not know.

SAPINDACEÆ.

Cardiospermum microcarpum, H. B. K.

Cardiospermum microcarpum, H. B. K., Nov. Gen. et Sp., v. p. 104; Griseb., Fl. Brit. W. Ind., p. 122.

BERMUDAS.—Indigenous. Without locality—*Rein.*

A very widely diffused plant in warm countries, including Florida and the West Indies.

Cardiospermum halicacabum, Linn.

> *Cardiospermum halicacabum*, Linn., Sp. Pl., ed. 1, p. 366; Griseb., Fl. Brit. W. Ind., p. 122; Chapm., Fl. Southern U.S., p. 79.

BERMUDAS.—Indigenous. Devonshire Marsh—*Munro;* common in some places—*Lefroy.*

In nearly all warm countries, including Florida and the West Indies.

Sapindus saponaria, Linn.

> *Sapindus saponaria*, Linn., Sp. Pl., ed. 1, p. 367; Griseb., Fl. Brit. W. Ind., p. 126; Chapm., Fl. Southern U.S., Suppl., p. 613.

BERMUDAS.—Indigenous.

The first tree known in the Bermudas sprang up from drift seed. It is rare. In 1841 a plant sprang up from a heap of sea-weed collected during the previous autumn for manure.—*Jones.*

Florida; West Indies; Venezuela.

Dodonæa viscosa, Linn., var. *angustifolia.*

> *Dodonæa viscosa*, Linn., Mant., p. 228, var. *angustifolia*, Linn., fil., Sp. Pl. Suppl., p. 218; Griseb., Fl. Brit. W. Ind., p. 128 (species).

BERMUDAS.—Indigenous. South Road to Ferry—*Lane;* Harrington Sound, &c.—*Lefroy;* in the bays—*Rein;* without locality—*Jones; Moseley.*

In almost all warm countries, especially on the sea-coast, and in dry, barren places. All the specimens we have seen from the Bermudas belong to the narrow-leaved form. It is the "Dogwood" and "Broom" of the islanders.

[In Mr Reade's collection we saw a specimen of the North American *Acer negundo,* Linn. (*Negundo aceroides,* Mœnch.), labelled "Near Spanish Point," but without any further note.]

ANACARDIACEÆ.

Rhus toxicodendron, Linn.

> *Rhus toxicodrendron*, Linn., Sp. Pl., ed. 1, p. 266; Chapm., Fl. Southern U.S., p. 69.
> *Rhus radicans*, Linn., loc. cit.
> *Rhus diversiloba*, Torr. and Gr., Fl. N. Am., i. p. 219.

BERMUDAS.—Indigenous. Without locality—*Lane;* abundant in marshes—*Moseley;* climbing up trees 30 feet—*Lefroy;* common in thickets, mouths of caverns, &c., especially on some of the islands of the Great Sound—*Jones;* without special locality—*Rein;* Boaz Island—*Reade.*

North America, from Canada to Mexico, and on both sides of the continent, if *Rhus* *diversiloba* be merely a form of the same species. The foliage is very variable in size and shape.

"The 'poison ivy' is very much dreaded by the natives."—*Lefroy.* "It is strange that this plant should prove so poisonous to some persons, that even a close approach to it is sufficient to cause a severe attack of inflammation of the face, whilst others may handle it, or even rub the leaves on their faces, with impunity."—*Jones.* In the following passage from the Historye of the Bermudaes (p. 2) we have evidence of the existence of this shrub in the islands when they were first settled. . . . "As likewise the poysonous weed, being in shape but little different from our English yuie [ivy]; but being touched causeth rednesse, itchinge, and lastly blysters, the which, howsoever, after a while they passe awaye of themselves without further harme; yet because for the time they are somewhat painefull, and in aspect dangerous, it hath gotten to itselfe an ill name, although questionlesse of noe very ill nature."

LEGUMINOSÆ.

PAPILIONACEÆ.

Medicago lupulina, Linn.

Medicago lupulina, Linn., Sp. Pl., ed. 1, p. 779; Chapm., Fl. Southern U.S., p. 90; Michx. in Ann. Mus. Hist. Nat., Par., viii. p. 359.

BERMUDAS.—Introduced. The commonest plant in the islands, growing everywhere, and forming nearly the whole of the verdure—*Michaux*, 1806; common throughout the islands, especially on pasture lands, and thriving in the shallowest soil—*Jones;* without special locality—*Moseley; Lefroy.*

An annual, native of Europe, &c., and naturalised in many countries.

Medicago denticulata, Willd.

Medicago denticulata, Willd., Sp. Pl., iii. p. 1414; Gray, Manual, ed. 5, p. 128.

BERMUDAS.—Introduced. Without locality—*Moseley; Lefroy.*

An annual, native of Europe, North Africa, and Western Asia.

Medicago maculata, Willd., and *Medicago muricata*, All., have also been collected in the islands by Sir J. H. Lefroy. They are both annuals or biennials of European origin.

Melilotus officinalis, Willd.

Melilotus officinalis, Willd., Enum. Pl. Hort. Bot. Berol., p. 790; Chapm., Fl. Southern U.S., p. 90.

BERMUDAS.—Introduced. Common in many places—*Jones.*

Europe and Asia. Introduced in America.

Melilotus parviflora, Desf.

Melilotus parviflora, Desf., Fl. Atl., ii. p. 192; DC., Prodr., ii. p. 187.

Bermudas.—Introduced. Without locality—*Moseley*. Also in the British Museum, in Sloane's Herbarium, vol. xxxii. p. 83, collected by *Dickinson*.

An annual or biennial weed of cultivation from Europe.

Vicia sativa, Linn.

Vicia sativa, Linn., Sp. Pl., ed. 1, p. 736; Chapm., Fl. Southern U.S., p. 98; Gray, Manual, ed. 5, p. 138.

Bermudas.—Introduced. Common in pasture land—*Jones*.

A native of Europe and other parts of the Old World, and probably a relic of cultivation in these islands.

Centrosema virginianum, Benth.

Centrosema virginianum, Benth. in Mart. Fl. Bras., xv. 1, p. 132; Chapm., Fl. Southern U.S., p. 107.

Bermudas.—Indigenous? Without locality—*Rein*.

America, ranging from Maryland to South Brazil.

Erythrina corallodendrum, Linn.

Erythrina corallodendrum, Linn., Sp. Pl., ed. 1, p. 706; Griseb., Fl. Brit. W. Ind., p. 199; Desc., Fl. Ant., iv. t. 298.
Erythrina speciosa, Andr., Bot. Repos., t. 443.

Bermudas.—Introduced. Introduced into the Bermudas from St Thomas about fifty years ago—*Darrell*.

West Indies to Brazil.

Canavalia obtusifolia, DC.

Canavalia obtusifolia, DC., Prodr., ii. p. 404; Griseb., Fl. Brit. W. Ind., p. 197; Desc., Fl. Ant., viii. t. 559; Chapm., Fl. Southern U.S., p. 109.
Canavalia rosea et *Canavalia miniata*, DC., loc. cit.

Bermudas.—Indigenous. Common on the sea-coast—*Jones*; *Moseley*; *Lefroy*.

This is a very common sea-shore plant in nearly all warm countries, including many remote islands. It appears to be one of those *Leguminosæ* whose seeds germinate after long immersion in sea-water. It bears the local name of "Bay-bean."

Vigna luteola, Benth.

Vigna luteola, Benth. in Mart. Fl. Bras., xv. 1, p. 194, t. 50, fig. 2; Griseb., Fl. Brit. W. Ind., p. 195.
Vigna glabra, Savi; Chapm., Fl. Southern U.S., p. 106.

Bermudas.—Indigenous? Without locality—*Lefroy*.

A common American plant in brackish marshes on the sea-shores, from Carolina to Buenos Ayres and Chili; also in Africa, Australia, &c.

Cajanus indicus, Spreng.

Cajanus indicus, Spreng., Syst. Veg., iii. p. 248; Griseb., Fl. Brit. W. Ind., p. 191.

BERMUDAS.—Introduced. Common on David Island—*Jones; Lefroy.*

Believed to be a native of the Old World; but it is now wild in most warm countries, having spread from cultivation.

Sophora tomentosa, Linn.

Sophora tomentosa, Linn., Sp. Pl., ed. 1, p. 373; Griseb., Fl. Brit. W. Ind., p. 203; Chapm., Fl. Southern U.S., p. 113; Desc., Fl. Ant., vii. t. 475.

BERMUDAS.—Indigenous. Without locality—*Lefroy's list;* Boaz Island—*Reade.*

There is also a specimen in the Herbarium of the British Museum labelled "Bermuda," but without the collector's name.

This tree occurs on nearly all tropical sea-shores, and extends beyond the tropics in some parts of the world.

CÆSALPINIEÆ.

Cæsalpinia bonducella, Fleming.

Cæsalpinia bonducella, Fleming in Asiat. Res., xi. p. 159.

Guilandina bonducella, Linn., Sp. Pl., ed. 2, p. 545; Griseb., Fl. Brit. W. Ind., p. 204; Desc., Fl. Ant., ii. t. 90.

BERMUDAS.—Introduced? Walsingham—*Lefroy.*

A cosmopolitan shrub in warm climates, flourishing equally well on the sea-shore and inland, ascending to an altitude of 2500 feet in the Himalayas.

Cassia occidentalis, Linn.

Cassia occidentalis, Linn., Sp. Pl., ed. 1, p. 377; Griseb., Fl. Brit. W. Ind., p. 209; Chapm., Fl. Southern U.S., p. 114; Desc., Fl. Ant., ii. t. 135.

BERMUDAS—Introduced. Common—*Lefroy.*

An annual species, generally diffused in warm countries, except Australasia.

Cassia bicapsularis, Linn.

Cassia bicapsularis, Linn., Sp. Pl., ed. 1, p. 376; Griseb., Fl. Brit. W. Ind., 207; Jacq., Fragm., t. 58.

BERMUDAS.—Introduced. Without localities—*Moseley; Lefroy.*

A shrubby species, having a very wide range in the warmer parts of America and the West Indian islands.

Bauhinia, sp.

BERMUDAS.—Introduced. A tree at the model farm—*Lefroy*.

There is also a flowerless specimen in the British Museum from the Banksian Herbarium, labelled "Bermuda," but without the collector's name.

MIMOSEÆ.

Desmanthus virgatus, Willd.

Desmanthus virgatus, Willd., Sp. Pl., iv. p. 1047; Chapm., Fl. Southern U.S., p. 116; Griseb., Fl. Brit. W. Ind., p. 218.

BERMUDAS.—Indigenous? Not uncommon—*Lefroy*.

Tropical and Sub-tropical America, from Florida and Lower California to Buenos Ayres. Introduced in India.

Leucæna glauca, Benth.

Leucæna glauca, Benth., in Hook. Journ. Bot., iv. p. 416; Trans. Linn. Soc. Lond., xxx. p. 443; Griseb., Fl. Brit. W. Ind., p. 220; Chapm., Fl. Southern U.S., Suppl., p. 619.

BERMUDAS.—Indigenous? Exceedingly common—*Rein; Moseley; Lefroy*.

Generally dispersed in warm countries, though most likely of Tropical American origin.

Acacia paniculata, Willd.

Acacia paniculata, Willd., Sp. Pl., iv. p. 1074; Griseb., Fl. Brit. W. Ind., p. 221.

BERMUDAS.—Introduced? Very common—*Jones*.

This is a common Tropical American shrub; but we have seen no Bermudan specimens, and it is probable that Mr Jones may have mistaken *Leucæna glauca* for it.

CRASSULACEÆ.

Bryophyllum calycinum, Salisb.

Bryophyllum calycinum, Salisb., Parad. Lond., t. 3; Bot. Mag., t. 1409; Griseb., Fl. Brit. W. Ind., p. 303.

BERMUDAS.—Introduced. An abundant weed—*Lane; Rein; Lefroy*.

A native of Tropical Africa, now common in most warm countries. According to Rein, it was introduced into the Bermudas by a Captain Stowe in 1813.

RHIZOPHOREÆ.

Rhizophora mangle, Linn.

Rhizophora mangle, Linn., Sp. Pl., ed. 1, p. 443; Griseb., Fl. Brit. W. Ind., p. 274; Chapm., Fl. Southern U.S., p. 135; Desc., Fl. Ant., i. t. 10.

Bermudas.—Indigenous. Forming thickets in the bays—*Lane; Rein; Moseley; Lefroy;* perhaps the most extensive mangrove swamp is at Hungry Bay, Devonshire Parish—*Jones.*

Florida, West Indies, and coast of Tropical America generally; also West Tropical Africa.

COMBRETACEÆ.

Conocarpus erectus, Jacq.

Conocarpus erectus, Jacq., Sel. Stirp. Am., p. 78, t. 52; Griseb., Fl. Brit. W. Ind., p. 277; Chapm., Fl. Southern U.S., p. 136.

Alnus maritimum, Coriarorum, Buttonwood, Bermudensibus vulgo, Pluk., Alm., p. 18, et Phytogr., t. 240, fig. 3.

Bermudas.—Indigenous. General on the sea-shore.—*Lane; Jones; Rein; Moseley; Lefroy; Reade.* Also in the British Museum, Sloane Herbarium, xcv. p. 29.

Florida to Brazil, and on the western coast of America, as well as of Tropical Africa.

This is the "Buttonwood" of the islanders, the "Wild Mulberry" of the early settlers, inadvertently named *Conocarpus racemosus* (*Laguncularia racemosa*) in Lefroy's Memorials of Bermuda, and in the Historye of the Bermudaes. This is also a common maritime shrub; but it has not hitherto, so far as we are aware, been found in the Bermudas.

MYRTACEÆ.

Eugenia monticola, DC.

Eugenia monticola, DC., Prodr., iii. p. 275; Griseb., Fl. Brit. W. Ind., p. 236; Chapm., Fl. Southern U.S., p. 131.

Bermudas.—Indigenous. Common about Walsingham—*Lefroy;* Boaz Island—*Reade.*

Florida and the West Indies.

We are not quite satisfied that all the specimens in the Kew Herbarium referred to this are really one and the same species. The Bermudan flowering specimen quite agrees with the Floridan, whilst the fruit is larger, though not larger than that of Cuban specimens named *Eugenia monticola* by Grisebach. This shrub bears the local name of "Stopper."

Psidium pomiferum et **Psidium pyriferum,** Linn.

Psidium pomiferum et *Psidium pyriferum,* Linn., Sp. Pl., ed. 2, p. 672.
Psidium guava, Radd. ex Griseb. Fl. Brit. W. Ind., p. 241.

BERMUDAS.—Introduced. Marsh near Devonshire—*Lane.*

The Guava, a native of Tropical America, is naturalised in all warm countries.

From a letter to Sir J. H. Lefroy, signed W. Cox, it would appear that for many years past nobody has troubled to cultivate it in the Bermudas.

Punica granatum, Linn.

Punica granatum, Linn., Sp. Pl., ed. 1, p. 472; Griseb., Fl. Brit. W. Ind., p. 242.

BERMUDAS.—Introduced—*Lane; Lefroy.*

Mediterranean region, and eastward to North-Western India, where it is believed to be indigenous.

ONAGRARIEÆ.

Œnothera rosea, Ait.

Œnothera rosea, Ait., Hort. Kew, ed. 1, ii. p. 3; Bot. Mag., t. 347; Griseb., Fl. Brit. W. Ind., p. 273.

BERMUDAS.—Introduced. Without locality—*Moseley; Reade.*

Texas to New Grenada, and in the West Indies. Naturalised in many other countries.

Œnothera sinuata, Michx.

Œnothera sinuata, Michx., Fl. Bor.-Am., i. p. 224; Chapm., Fl. Southern U.S., p. 138.
Œnothera humifusa, Nutt., Gen. N. Am. Pl., i. p. 245.

BERMUDAS.—Introduced. Roadsides, &c.—*Rein; Lefroy; Reade.*

Southern States of North America and Mexico.

Gaura coccinea, Nutt.

Gaura coccinea, Nutt. in Torr. and Gray, Fl. N. Am., i. p. 73; Hemsl. in Godm. and Salv., Biol. Centr. Am., i. p. 466.

BERMUDAS.—Introduced. Without locality—*Rein.*

Widely dispersed in Western North America, including Mexico.

Ludwigia repens, Swartz.

Ludwigia repens, Swartz, Fl. Ind. Occ., i. p. 273; Ic. Pl. Ind. Occ., t. 8.
Isnardia repens, DC., Prodr., iii. p. 60; Griseb., Fl. Brit. W. Ind., p. 271.
Ludwigia natans, Ell.; Chapm., Fl. Southern U.S., p. 142, fide Griseb., Fl. Brit. W. Ind., p. 271.

BERMUDAS.—Indigenous. Abundant in peat marshes—*Moseley;* without locality—*Rein.*

South Carolina to Texas and the West Indies.

This species strongly resembles the widely-spread *Ludwigia palustris*, differing in its more robust habit and in having petals: possibly it is only a petaliferous state of that species.

PASSIFLOREÆ.

Passiflora ciliata, Ait.

Passiflora ciliata, Ait., Hort. Kew, ed. 1, iii. p. 310; Bot. Mag., t. 288; Griseb., Fl. Brit. W. Ind., p. 294.

BERMUDAS.—Introduced. Walsingham—*Lefroy; Reade.*

West Indies, from the Bahamas to Jamaica.

Masters (Mart. Fl. Bras., xiii. 1, p. 583) treats this as a variety of *Passiflora fœtida*, Linn., a widely diffused species, alike in America and the Old World.

CUCURBITACEÆ.

Sicyos angulatus, Linn.

Sicyos angulatus, Linn., Sp. Pl., ed. 1, p. 1013; Chapm., Fl. Southern U.S., p. 149.

BERMUDAS.—Introduced? Paynter's Vale, near Church Cave, &c.—*Moseley; Lefroy.*

Southern part of North America from Florida to California.

CACTACEÆ.

Opuntia pes-corvi, Leconte.

Opuntia pes-corvi, Leconte ex Engelm. in Proc. Am. Acad., iii. p. 346; Chapm., Fl. Southern U.S., p. 145; Rein in Bericht Senckenb. Naturf. Gesellsch. Frankf. am M. 1873, pp. 138 et 149.

BERMUDAS.—Indigenous. Without locality—*Rein.*

Florida.

Opuntia ficus-indica, Mill.

Opuntia ficus-indica, Mill, Dict., ed. 6, n. 2; Haw., Syn. Pl. Succ., p. 191; Chapm., Fl. Southern U.S., p. 144.

BERMUDAS.—Indigenous? Common—*Rein.*

South Florida, West Indies, and Tropical America.

This species has long been cultivated for its edible fruit, and it also occurs in a wild state, more or less, in the greater part of the area of its cultivation.

Opuntia tuna, Mill.

Opuntia tuna, Mill, Dict., ed. 6, n. 3; DC., Prodr., iii. p. 472; Griseb., Fl. Brit. W. Ind., p. 302; Desc., Fl. Ant., vii. t. 516; Jones in Proc. and Trans. Nov. Scot. Inst. Nat. Sc., Oct. 1873, p. 257.

Bermudas.—Indigenous? Common—*Jones.*

West Indies and Tropical America.

This species is also cultivated, and Engelmann (Synop. Cact. U.S. in Proc. Am. Acad., iii. reprint, p. 34) states that specimens gathered on the coast of South Carolina ("probably introduced") may belong to this species.

Opuntia vulgaris, Mill.

Opuntia vulgaris, Mill, Dict., ed. 6, n. 1; Chapm., Fl. Southern U.S., p. 144; Engelm., Synop. Cact. U.S. in Proc. Am. Acad., iii. reprint, p. 41.

Bermudas.—Indigenous? Without locality—*Lane.*

This species, according to Engelmann, ranges from the south-eastern coast of Massachusetts to Georgia and Florida.

As is set forth more fully in the introduction, one or more species of "prickly pear" were found in abundance by the first Englishmen who visited the islands; but we have seen no specimen of any species from the Bermudas, hence we can only give the names cited by the different writers. From their continental and West Indian distribution, there is no reason why all four of the species enumerated should not be wild in the Bermudas; yet as great confusion prevails in the names of *Cactaceæ*, it may be that there are only two, or at most three, species concerned. In his list, Rein includes only *Opuntia pes-corvi* and *Opuntia ficus-indica*, while in his description of the vegetation of the islands he mentions *Opuntia tuna*, in conjunction with the former, as one of the two species occurring in a wild state. Further, *Opuntia tuna* is included on the authority of Jones alone.

FICOIDEÆ.

Sesuvium portulacastrum, Linn.

Sesuvium portulacastrum, Linn., Sp. Pl., ed. 2, p. 684; Griseb., Fl. Brit. W. Ind., p. 57; Chapm., Fl. Southern U.S., p. 44.

Bermudas.—Indigenous. Common on the coast—*Lane; Jones; Moseley; Lefroy.*

Wisely diffused on tropical and sub-tropical sea-coasts.

UMBELLIFERÆ.

Hydrocotyle asiatica, Linn.

Hydrocotyle asiatica, Linn., Sp. Pl., ed. 1, p. 234; Griseb., Fl. Brit. W. Ind., p. 307.
Hydrocotyle repanda, Pers., Ench., i. p. 302; Chapm., Fl. Southern U.S., p. 159.
Hydrocotyle ficarioides, Michx., Fl. Bor.-Am., i. p. 161.

BERMUDAS.—Indigenous. Muddy places—*Moseley;* Devonshire marsh—*Lefroy;* without locality—*Rein;* marshes—*Reade.*

Very widely spread in the warm parts of Asia, Africa, America, and Australia.

Hydrocotyle umbellata, Linn.

Hydrocotyle umbellata, Linn., Sp. Pl., ed. 1, p. 234; Griseb., Fl. Brit. W. Ind., p. 307; Chapm., Fl. Southern U.S., p. 159; Rein in Bericht Senckenb. Naturf. Gesellsch. Frankf. am M., 1873, p. 150.

BERMUDAS.—Indigenous. Without locality—*Rein.*

Massachusetts southward through the West Indies and Mexico to Peru and Guiana.

We have seen no Bermudan specimens of this species; but it is so different from *Hydrocotyle asiatica* that we cannot suspect any error in the determination.

Smyrnium olusatrum, Linn.

Smyrnium olusatrum, Linn., Sp. Pl., ed. 1, p. 262; DC., Prodr., iv. p. 247.

BERMUDAS.—Introduced. Without memoranda—*Lane; Moseley.*

Europe, Northern Africa, and Western Asia; formerly commonly cultivated.

Apium leptophyllum, F. Muell.

Apium leptophyllum, F. Muell. in Benth. Fl. Austr., iii. p. 372.
Helosciadium leptophyllum, DC., Prodr., iv. p. 105; Griseb., Fl. Brit. W. Ind., p. 308; Chapm., Fl. Southern U.S., Suppl., p. 623.

BERMUDAS.—Introduced. Walls and roadsides—*Lane; Moseley; Lefroy.*

A very common annual weed all over the warmer parts of America; occurring also in Africa and Australia.

Apium graveolens, Linn.

Apium graveolens, Linn., Sp. Pl., ed. 1, p. 264; DC., Prodr., iv. p. 101.

BERMUDAS.—Introduced. Escaped from gardens—*Lane.* We have no other authority for the celery occurring wild.

Europe, Northern Africa, and Western Asia, and cultivated in other countries.

Ammi majus, Linn.

Ammi majus, Linn., Sp. Pl., ed. 1, p. 243; DC., Prodr., iv. p. 112; Sibthorp, Flora Græca, t. 273.

BERMUDAS.—Introduced. Waste places—*Moseley.*

A common weed of cultivation, especially in the Mediterranean region.

Fœniculum vulgare, Gærtn.

Fœniculum vulgare, Gærtn., Fruct., i. p. 105, t. 23, fig. 5; DC., Prodr., iv. p. 142.

BERMUDAS.—Introduced. The fennel is now very common throughout the islands—*Rein; Lane; Lefroy.*

Europe, Northern Africa, and Western Asia to Northern India.

Anethum graveolens, Linn.

Anethum graveolens, Linn., Sp. Pl., ed. 1, p. 263; DC., Prodr., iv. p. 186.

BERMUDAS.—Introduced. Abundant—*Lefroy.*

A native of Europe, &c. Dill is very commonly cultivated for its aromatic seeds, and is naturalised in many countries.

Coriandrum sativum, Linn.

Coriandrum sativum, Linn., Sp. Pl., ed. 1, p. 256; DC., Prodr., iv. p. 250.

BERMUDAS.—Introduced. Cultivated and wild—*Lefroy.*

The coriander is a native of the Old World, but it is now naturalised in many countries.

Caucalis nodosa, Huds.

Caucalis nodosa Huds., Fl. Angl., ed. nov. p. 114.
Torilis nodosa, Gærtn., Fruct., i. p. 82, t. 20, fig. 6; DC., Prodr., iv. p. 219.

BERMUDAS.—Introduced. Waste places—*Rein; Moseley; Reade.*

A native of Europe, Northern Africa, and Western Asia, and naturalised in many other countries.

GAMOPETALÆ.

RUBIACEÆ.

Rhachicallis rupestris, DC.

Rhachicallis rupestris, DC., Prodr., iv. p. 434; Griseb., Fl. Brit. W. Ind., p. 330.
Hedyotis rupestris, Swartz., Prodr. Fl. Ind. Occ., p. 29; H. B. K., Nov. Gen. et Sp. iii., p. 391.

BERMUDAS.—Indigenous. Common on rocks on the sea-shore—*Munro; Rein.*

Otherwise restricted to the West Indies, though ranging from the Bahamas to Cuba and Jamaica.

Randia aculeata, Linn.

Randia aculeata, Linn., Sp. Pl., ed. 1, p. 1192; Griseb., Fl. Brit. W. Ind., p. 318; Chapm., Fl. Southern U.S., p. 179.

BERMUDAS.—Indigenous. On hills in Warwick—*Lefroy;* in abundance on the ridge above the Paget Sand Hills—*Jones.*

Florida and the West Indies from Antigua to Cuba.

Locally known as "Wild Box" and "Inkberry."

Chiococca racemosa, Linn.

Chiococca racemosa, Linn., Syst. Nat., ii. p. 917; Jacq., Sel. Stirp. Am., p. 68; Griseb., Fl. Brit. W. Ind., p. 336; Chapm., Fl. Southern U.S., p. 177.

BERMUDAS.—Indigenous. Walsingham—*Lane;* abundant in places—*Lefroy; Moseley;* roadside near Tucker's Town—*Jones;* in the bays associated with *Dodonæa viscosa*, &c. —*Rein.*

Florida and Mexico southward to Peru and Brazil.

The "Blolly" of the islanders.

Coffea arabica, Linn.

Coffea arabica, Linn., Sp. Pl., ed. 1, p. 172; Griseb., Fl. Brit. W. Ind., p. 338.

BERMUDAS.—Introduced. Grows wild about Walsingham and different parts of the islands—*Jones;* confined to the Cave district—*Lefroy;* without locality—*Rein.*

Eastern Tropical Africa; also naturalised in the West Indies.

Morinda royoc, Linn.

Morinda royoc, Linn., Sp. Pl., ed. 1, p. 176; Griseb., Fl. Brit. W. Ind., p. 347; Chapm., Fl. Southern U.S., p. 177.

BERMUDAS.—Indigenous. Walsingham—*Lane;* without locality—*Lefroy.*

Florida, Cuba, Jamaica, Honduras, and Panama, usually growing in maritime districts.

Psychotria undata, Jacq.

Psychotria undata, Jacq., Hort. Schœnb., iii. p. 5, t. 260; Griseb., Fl. Brit. W. Ind., p. 342; Chapm. Fl. Southern U.S., p. 177.

BERMUDAS.—Indigenous. Walsingham—*Lefroy;* without locality—*Moseley.*

Florida, Bahamas, and Jamaica.

Spermacoce tenuior, Lam.

Spermacoce tenuior, Lam. ex Griseb. Fl. Brit. W. Ind., p. 349; Chapm., Fl. Southern U.S., p. 175.

BERMUDAS.—Introduced? Without localities or memoranda—*Lefroy; Reade.*

An annual herb, inhabiting Florida and Mexico and the country southward to Peru and Brazil.

Vaillantia hispida, Linn.

Vaillantia hispida, Linn., Sp. Pl., ed. 2, p. 1490; DC., Prodr., iv. p. 614.

BERMUDAS.—Introduced. Walls and roadsides—*Moseley; Rein.*

Introduced from Europe.

Lane's list includes "*Vaillantia muralis,*" Linn., probably in error for this species.

Relbunium hypocarpium, Hemsl.

Relbunium hypocarpium, Hemsl. in Salv. and Godm. Biolog. Centr. Am. Bot., ii. p. 63.
Rubia hypocarpia, DC., Prodr., iv. p. 591.
Galium hypocarpium, Endl. ex Griseb. Fl. Brit. W. Ind., p. 351.

BERMUDAS.—Introduced? Without special locality—*Moseley; Lefroy.*

Generally dispersed in the West Indies and Tropical South America.

Galium uniflorum, Michx.

Galium uniflorum, Michx., Fl. Bor.-Am., i. p. 79; Chapm., Fl. Southern U.S., p. 174.

BERMUDAS.—Indigenous. In various localities—*Munro; Lefroy; Reade.*

South Carolina to Florida.

Galium bermudense, Linn.

Galium bermudense, Linn., Sp. Pl., ed. 1, p. 105.
Rubia tetraphylla, glabra, latiore folio, bermudensis, seminibus binis atropurpureis.—Pluk., Alm., p. 324, et Phytogr., t. 248. "A Do. Petiver habuimus."

It is uncertain what species Plukenet's plant is. Pursh (Fl. Am. Sept., i. p. 104) regards *Galium puncticulosum*, Michx. (Fl. Bor.-Am., i. p. 8), and *Galium purpureum*, Walt. (Fl. Carol., p. 87), as the same. Chapman (Fl. Southern U.S., p. 174) cites *Galium bermudianum*, Ell. (Bot. Carol., i. p. 196), under *Galium pilosum*, Ait.

VALERIANEÆ.

Centranthus macrosiphon, Boiss.

Centranthus macrosiphon, Boiss., Diag. Pl. Nov., iii. p. 57; Walp., Rep., vi. p. 80; Lem., Jard. Fleur., iii. t. 273.

BERMUDAS.—Introduced. Without locality—*Rein.*

A native of Western Europe, probably imported into the islands for its beauty.

Valerianella olitoria, Mœnch.

Valerianella olitoria, Mœnch., Meth. Pl., p. 493; DC., Prodr., iv. p. 625; Gray, Manual, ed. 5, p. 214 (*Fedia*).
Fedia radiata, Michx.? Chapm., Fl. Southern U.S., p. 184.

BERMUDAS.—Introduced. St David Island—*Lefroy.*

Mediterranean region, and naturalised in North America and other countries where it is cultivated.

COMPOSITÆ.

Ageratum conyzoides, Linn.

Ageratum conyzoides, Linn., Sp. Pl., ed. 1, p. 839; Griseb., Fl. Brit. W. Ind., p. 356; Chapm., Fl. Southern U.S., p. 189.

BERMUDAS.—Introduced. A common weed—*Lefroy.*

Generally dispersed in the warmer parts of America, and naturalised in many other countries.

Eupatorium fœniculaceum, Willd.

Eupatorium fœniculaceum, Willd., Sp. Pl., iii. p. 1750; Chapm., Fl. Southern U.S., p. 196.

BERMUDAS.—Indigenous. Roads near Hamilton—*Lane;* Pembroke marshes—*Lefroy;* a common weed on waste ground that has been cultivated—*Jones.*

Carolina to Florida.

Eupatorium conyzoides, Vahl.

Eupatorium conyzoides, Vahl, Symb., iii. p. 96; Griseb., Fl. Brit. W. Ind., p. 358; Chapm., Fl. Southern U.S., Suppl., p. 627.

BERMUDAS.—Introduced. Without locality—*Lefroy.*

South Florida, and West Indies and Mexico to Brazil.

Eupatorium macrophyllum, Linn.

Eupatorium macrophyllum, Linn., Sp. Pl., ed. 2, p. 1175; Hemsl. in Journ. Bot., 1883, p. 258.
Hebeclinium macrophyllum, DC., Prodr., v. p. 136; Griseb., Fl. Brit. W. Ind., p. 356.
Eupatorium bermudense latifolium flosculis pallescentibus, Silverweed, *nostratibus vulgo*, Pluk., Phytogr., t. 243.

BERMUDAS.—Introduced? In the Sloane Herbarium (xxii. p. 80, and xcvi. p. 28), British Museum—*Dickinson.*

Throughout the West Indies and southward to Brazil.

This plant is not in any of the modern collections, yet it is possible that it may still exist in the islands; for, as we have observed before, many of the indigenous plants are very rare and local.

Solidago sempervirens, Linn.

Solidago sempervirens, Linn., Sp. Pl., ed. 1, p. 878; Chapm., Fl. Southern U.S., p. 211; Gray, Manual, ed. 5, p. 242, et Proc. Am. Acad., xvii. p. 192.
Solidago mexicana, Linn., Sp. Pl., ed. 1, p. 879, fide Gray in Proc. Am. Acad., xvii. p. 178.
Solidago lævigata, Ait., Hort. Kew., ed. 1, iii. p. 215.
Solidago limonifolia, Pers., Ench., ii. p. 449.
Solidago azorica, Hochst. in Seub. Fl. Azor., p. 31, t. 10; Godm., Nat. Hist. Azor., p. 178.

BERMUDAS.—Indigenous. Rocks, seaside—*Lane;* low ground—*Jones;* without locality—*Rein;* common—*Reade.*

Maine to Florida, and in the Azores.

This common salt-marsh and sea-shore plant of eastern North America occurs abundantly in the Azores, and was described in the work of Seubert, cited above, as an endemic species. It is, however, certainly the same as the North American species, and it has been suggested that it was introduced into the Azores; but there would seem to be no more justification for this view than that the North American element in Ireland is wholly an introduced one. Seubert (1844) has the following record: "Ad littora marina ins. Terceira, Fayal, Pico et præsertim in ins. Flores copiosissima usque ad 1000 ped." And Watson, in Godman's Natural History of the Azores, pp. 178 and 269, quotes the islands named with S. Miguel and Corvo in addition. At that date (1870) its identity with the North American *Solidago sempervirens* had not been established, or, if it had, Watson was not aware of the circumstance. Nevertheless, he was so acute in discriminating the indigenous and introduced elements of a flora, and always prepared to meet with colonised plants, that this *Solidago* must have been very well established not to have excited in him a suspicion of its foreign origin.

Solidago mexicana, Linn., one of the synonyms of *Solidago sempervirens*, seems to have been erroneously recorded as Mexican, for there are no Mexican specimens in any of the herbaria consulted.

Solidago stricta, Ait.

Solidago stricta, Ait., Hort. Kew., ed. 1, iii. p. 216; Gray in Proc. Am. Acad., xvii. p. 192.
Solidago virgata, Michx., Fl. Bor.-Am., ii. p. 117; Chapm., Fl. Southern U.S., p. 211.
Solidago linoides, Solander; Gray, Manual, ed. 5, p. 243.
Solidago angustifolia, Ell., Bot. Carol., ii. p. 388.

BERMUDAS.—Indigenous? A universal weed—*Lefroy; Reade.*

Maine to Florida.

[*Aster tripolium*, Linn., is recorded in Jones's list as a common roadside plant; but we have seen no specimen, and it is very probable that the record originated in an error.]

Erigeron annuus, Pers.

Erigeron annuus, Pers., Ench., p. 431; Gray, Manual, ed. 5, p. 237; Fl. Dan., t. 486 (*Aster*).
Stenactis annua, Nees, Ast., p. 273; DC., Prodr., v. p. 298.

BERMUDAS.—Introduced. Without locality or other indication—*Rein.*

North America; introduced in Europe and some other countries.

Erigeron canadensis, Linn.

Erigeron canadensis, Linn., Sp. Pl., ed. 1, p. 863; Griseb., Fl. Brit. W. Ind., p. 365; Chapm., Fl. Southern U.S., p. 206.

Bermudas.—Introduced. A common weed—*Moseley; Reade.*

Canada to Brazil, and naturalised in many other countries of both hemispheres.

Erigeron darrellianus, Hemsl. (Plate I.)

Erigeron darrellianus, Hemsl.

Perennis, habitu foliisque *Conyzæ rivularis*, a qua differt capitulis, radiatis, minoribus, numerosioribus, &c.

Herba perennis, ut videtur, 1-2 ped. alta, basi lignosa, caulibus basi simplicibus, floriferis inferne exfoliatis, superne graciliter corymboso-paniculatis. *Folia* sessilia, confertissima, membranacea, oblongo-lanceolata vel oblanceolata, usque ad 3 poll. longa, apiculata, integra vel utrinque pauci apiculato-dentata, undique sparse pilosula, superiora gradatim minora, discreta. *Capitula* numerosissima, 3–4 lineas diametro; involucri bracteæ circiter 3-seriatæ, inæquales, lineares, margine scariosæ; ligulæ 30–35, 2-seriatæ (?) angustissimæ, bracteas 1–2 lineas superantes. *Achenia* (matura desunt) sparse pilosula; pappi setæ pauci-seriatæ, hispidulæ.—Journ. Bot., 1883, p. 104, t. 239, fig. 1.

Endemic.

Rocky places on the coast—*Lefroy; Moseley.*

This is compared in the foregoing description with *Conyza rivularis*, a Brazilian plant, which it closely resembles in habit, though the presence of a ray indicates the neighbouring genus *Erigeron*, as it is generally understood. Possibly it may prove to be a maritime form of some previously described species.

It has been dedicated to the Hon. J. H. Darrell, whose services to botany are mentioned in the introduction to this synopsis of the flora of the Bermudas.

In the Sloane Collection of the British Museum (xcvi. p. 29) there is a specimen collected by J. Dickinson, who found it growing among bushes and flowers. Dickinson calls this "Hog-weed," a name now applied, according to Lefroy, to *Boerhaavia erecta.*

Erigeron linifolius, Willd.

Erigeron linifolius, Willd., Sp. Pl., iii. p. 1955; Baker in Mart. Fl. Bras., fasc. lxxxvii. p. 31.
Conyza ambigua, DC., Prodr., v. p. 381.

Bermudas.—Introduced. A common weed—*Lefroy; Lane; Moseley.* And in the British Museum, Sloane's Herbarium, xxxii. p. 83—*Dickinson.*

A native of Europe, now naturalised in many countries.

Erigeron philadelphicus, Linn.

Erigeron philadelphicus, Linn., Sp. Pl., ed. 1, p. 863; Chapm., Fl. Southern U.S., p. 206.

BERMUDAS.—Introduced? A common weed—*Lane; Jones; Rein; Lefroy.*

Canada to Florida.

Erigeron tenuis, Torr. and Gray.

Erigeron tenuis, Torr. and Gray, Fl. N. Am., ii. p. 175.
Erigeron quercifolius, Nutt. in DC. Prodr., v. p. 285 sed certe non Lam., ex Torr. and Gray.

BERMUDAS.—Introduced. Without locality—*Moseley.* Not included in any of the other collections, and probably only of casual occurrence in the islands.

Louisiana; Texas.

Baccharis glomeruliflora, Pers.

Baccharis glomeruliflora, Pers., Ench., ii. p. 423; Chapm., Fl. Southern U.S., p. 218.
Baccharis sessiliflora, Michx., Fl. Bor.-Am., ii. p. 125.

BERMUDAS.—Indigenous. Common in marshes—*Farlow; Lane; Moseley; Lefroy.*

North Carolina to Florida.

This is the "Dogwood" of the islanders; and the *Baccharis*, n. sp.? of Jones's list, and the *Baccharis heterophylla*, Linn., of Rein's list, is probably the same species, for there appears to be only one in the islands. "*Baccharis halimifolia*, Linn.," of Lane's list, is also doubtless the same species.

Pluchea odorata, Cass.

Pluchea odorata, Cass., Dict., xlii. p. 3; DC., Prodr., v. p. 452; Griseb., Fl. Brit. W. Ind., p. 366; Desc., Fl. Ant., iii. t. 217.

BERMUDAS.—Indigenous? Pembroke Marsh—*Lefroy.*

Florida and Mexico to New Grenada, and throughout the West Indies.

Lefroy states that this grows eight feet high, with a stem as thick as a man's wrist.

Pluchea purpurascens, DC.

Pluchea purpurascens, DC., Prodr. v. p. 452; Griseb. Fl. Brit. W. Ind., p. 367; Chapm., Fl. Southern U.S., p. 218.

BERMUDAS.—Indigenous. Shelly Bay and Warwick—*Lefroy.*

Florida and Mexico to New Grenada, and throughout the West Indies.

Pluchea camphorata, DC.

Pluchea camphorata, DC., Prodr., v. p. 452; Chapm., Fl. Southern U.S., p. 218; Gray, Manual, ed. 5, p. 247.

BERMUDAS.—Indigenous. Marshes—*Moseley.*

An inhabitant of salt marshes in eastern North America, ranging from North Carolina to Florida.

Polymnia uvedalia, Linn.

> *Polymnia uvedalia*, Linn., Sp. Pl., ed. 2, p. 1303; Chapm., Fl. Southern U.S., p. 219; Gray, Manual, ed. 5, p. 248.

BERMUDAS.—Introduced. Escaped from cultivation—*Lane;* without locality—*Rein; Reade.*

New York to Florida.

Parthenium hysterophorus, Linn.

> *Parthenium hysterophorus*, Linn., Sp. Pl., ed. 1, p. 988; Griseb., Fl. Brit. W. Ind., p. 369; Chapm., Fl. Southern U.S., p. 222.

BERMUDAS.—Introduced? Common—*Lefroy; Rein; Moseley; Reade.*

Florida and Mexico to Patagonia, chiefly in waste places and on roadsides.

Ambrosia artemisiæfolia, Linn.

> *Ambrosia artemisiæfolia*, Linn., Sp. Pl., ed. 1, p. 988; Chapm., Fl. Southern U.S., p. 223; Griseb., Fl. Brit. W. Ind., p. 370.

BERMUDAS.—Introduced. Roadsides—*Lane; Lefroy.*

Canada to Brazil, especially in cultivated ground and waste places.

The "*Ambrosia heterophylla*, DC.," of Jones's list is perhaps the same species.

Eclipta erecta, Linn.

> *Eclipta erecta*, Linn. ex DC. Prodr., v. p. 490; Chapm., Fl. Southern U.S., p. 224; Griseb., Fl. Brit. W. Ind., p. 370, sub *Eclipta alba.*

BERMUDAS.—Indigenous? Marshes—*Moseley;* abundant in wet ditches—*Lefroy.*

Pennsylvania to Uruguay, and widely diffused in the Old World.

Borrichia arborescens, DC. (Plate II.)

> *Borrichia arborescens*, DC., Prodr., v. p. 489; Griseb., Fl. Brit. W. Ind., p. 371; Chapm., Fl. Southern U.S., p. 224.
> *Buphthalmum arborescens*, Linn., Sp. Pl., ed. 2, p. 1273.
> *Chrysanthemum bermudense, folio rigido-viridi*, Moris., Hist. Pl., pars iii. p. 25.
> *Borrichia argentea*, DC., Prodr., v. p. 489.

BERMUDAS.—Indigenous. Abundant along the whole coast-line—*Rein; Jones; Moseley; Lefroy;* Boaz Island—*Reade.*

The Keys of Florida, and through the West Indies to Peru.

Morison, who appears to have first described this plant, drew up his description from Bermudan plants cultivated at Hampton Court before 1699.

This and *Borrichia frutescens* are the only two species of the genus; and both species are remarkable for a peculiarity in the foliage that has led to their being subdivided into three or four species. Usually the leaves are clothed all over with hairs, and those of *Borrichia arborescens* with a dense soft down; but side by side with plants thus clothed with hairs others are occasionally found with perfectly glabrous glossy foliage. Other plants occur in which some of the leaves are hairy and some quite glabrous. In all cases, probably, the leaves are hairy when quite young; and the hairs, which are clearly of a very deciduous nature, are from some cause shed early where the leaves are naked. Throughout its range of distribution it inhabits calcareous, rocky, or other dry situations.

Borrichia frutescens, DC. (Plate III.)

Borrichia frutescens, DC., Prodr., v. p. 489; Chapm., Fl. Southern U.S., p. 224.
Buphthalmum frutescens, Linn., Sp. Pl., ed. 1, p. 903.

BERMUDAS.—Indigenous. Seaside—*Lane; Lefroy.*

North Carolina to Florida, and in Mexico.

Linnæus records this species from the West Indies, and cites Sloane's *Chrysanthemum fruticosum maritimum* (Hist. Jam., i. p. 260), which probably belongs to *Borrichia arborescens.*

Bidens pilosa, Linn.

Bidens pilosa, Linn., Sp. Pl., ed. 1, p. 832.
Bidens leucantha, Willd., Sp. Pl., iii. p. 1719; Griseb., Fl. Brit. W. Ind., p. 373; Chapm., Fl. Southern U.S., p. 237.

BERMUDAS.—Introduced. Roadsides, &c.—*Lane; Rein; Moseley.*

A common weed in nearly all warm countries.

Senecio vulgaris, Linn.

Senecio vulgaris, Linn., Sp. Pl., ed. 1, p. 867; Gray, Manual, ed. 5, p. 271; DC., Prodr., vi. p. 341.

BERMUDAS.—Introduced. Cultivated ground—*Jones; Lefroy.*

Europe, and naturalised in most temperate regions where Europeans have settled.

Cichorium intybus, Linn.

Cichorium intybus, Linn., Sp. Pl., ed. 1, p. 813; Gray, Manual, ed. 5, p. 275; DC., Prodr., vii. p. 84.

BERMUDAS.—Introduced. Common—*Lane; Jones; Reade.*

Europe, Northern Africa to North-Western India.

Crepis japonica, Benth.

Crepis japonica, Benth., Fl. Hongk., p. 194; Hook., Fl. Brit. Ind., iii. p. 395.
Youngia lyrata, Cass., Opusc., iii. p. 86; DC., Prodr., vii. p. 192–193, spp. 1–8.

Bermudas.—Introduced. Waste ground—*Lefroy*. Not naturalised in North America, and apparently casual in the islands.

India and Eastern Asia.

Taraxacum officinale, Wigg.

Taraxacum officinale, Wigg., Prim. Fl. Hols., p. 56; Boiss., Fl. Or., iii. p. 787; Griseb., Fl. Brit. W. Ind., p. 384.
Taraxacum dens-leonis, Desf., Fl. Atl., ii. p. 228; Chapm., Fl. Southern U.S., p. 252.

Bermudas.—Introduced. *Lane; Jones.*

Indigenous in both north and south temperate and cold regions, and one of the most widely dispersed weeds of cultivation.

Sonchus oleraceus, Linn.

Sonchus oleraceus, Linn., Sp. Pl., ed. 1, p. 794; Chapm., Fl. Southern U.S., p. 253; Griseb., Fl. Brit. W. Ind., p. 384.

Bermudas.—Introduced. Common—*Rein; Reade.*

Almost everywhere in both hemispheres except in the colder regions.

Sonchus asper, Vill.

Sonchus asper, Vill., Delph., iii. p. 158; Chapm., Fl. Southern U.S., p. 253; Griseb., Fl. Brit. W. Ind., p. 385.

Bermudas.—Introduced. Common—*Rein; Reade.*

Also very widely dispersed, and recorded as certainly indigenous in New Zealand, as well as northern countries.

GOODENOVIEÆ.

Scævola lobelia, Linn.

Scævola lobelia, Linn., Syst. Veg., ed. xiii. (Murray), p. 178, excl. syn. Rumph. ex Hiern in Oliv. Fl. Trop. Afr., iii. p. 462.
Scævola plumieri, Vahl, Symb., ii. p. 36; Griseb., Fl. Brit. W. Ind., p. 388; Chapm., Fl. Southern U.S., p. 256.

Bermudas.—Indigenous. Abundant on the sea-shore—*Rein; Moseley; Reade.*

A maritime shrub, common on the sea-shores of the warmer parts of America, Africa, and Asia.

PLUMBAGINEÆ.

Statice lefroyi, Hemsl. (Plate IV.)

Statice lefroyi, Hemsl.

Statice bahusiensi affinis, differt scaporum multo elatiorum ramulis gracillimis rectiusculis bracteis floribusque triente parte brevioribus, &c.

Herba glabra, siccitate pallida, saltem bipedalis. *Folia* oblonga, lanceolata vel oblanceolata, apice obtusissima vel rotundata, sub apice mucrone recto rigidiusculo instructa, basi in petiolum longissimum decurrentia, distincte pennivenia, cum petiolo 6–12 poll. longa. *Scapus* bipedalis, fistulosus, parte inferiore (saltem in siccis), angulatus, anguste ramoso-paniculatus, ramulis ultimis filiformibus fere rectis; spiculæ dissitæ, 1–2-floræ, sed sæpissime 1-floræ, cum calyce circiter 3-lineas longæ; bracteæ late scarioso-hyalinæ, vix acutæ, extima ¾ lineam longa, intima 2½ lineas longa. *Flores* cærulei; calycis tubus costatus, costis sat setulosis; limbi lobis subacutis; petala ima basi tantum coalita, obovata, emarginata, calycem vix æquantia; filamenta leviter dilatata; ovarium glabrum, 5-angulatum; styli a basi liberi, stigmatibus subclavatis.—Journ. Bot., 1883, p. 105.

BERMUDAS.—Endemic. Salt marsh, Walsingham—*Lefroy*.

This is probably the same species identified by Rein as *Statice caroliniana*, Nutt. What the true *Statice caroliniana* is we have not been able to determine. Chapman (Flora of the Southern United States, p. 278) retains it as a distinct species, and describes the calyx as smooth. Gray (Manual of the Botany of the Northern United States, ed. 5, p. 313) regards it as a variety of *Statice limonium*, Linn. The Bermudan plant, however, is sufficiently distinct from all the North American specimens that we have seen to rank as a distinct species. It is also very different from *Statice bahamensis*, Griseb. Its nearest affinity, apparently, is with *Statice bahusiensis*, Fries., from which it is distinguishable at a glance, though the technical characters that separate the species are slight. The differences are chiefly in the habit and stature of the plant; the mode of branching of the panicle; the slenderness and straightness of the ultimate branchlets of the panicle; the size of the spikelets; and the size, consistence, and shape of the bracts. Further, it differs from all the species we know in having the corolla shorter than the calyx. We at first thought the artist had made a mistake, as the twisted corollas are very difficult to open out; but our own examination of flowers verified the drawing as to the condition in the dried state. In the specimens collected by Sir J. H. Lefroy, the only ones we have seen, the flowers are all past their prime.

PRIMULACEÆ.

Anagallis arvensis, Linn.

Anagallis arvensis, Linn., Sp. Pl., ed. 1, p. 148; Chapm., Fl. Southern U.S., p. 281.

BERMUDAS.—Introduced. Very common—*Michaux; Lane; Jones; Rein; Moseley; Lefroy.*

Northern temperate regions, &c., of the Old World, and naturalised in North America.

OLEACEÆ.

Olea europæa, Linn.

Olea europæa, Linn., Sp. Pl., ed. 1, p. 8; DC., Prodr., viii. p. 284; Proc. and Trans. Nova Scotia Inst. Nat. Sc., 1873, p. 262.

BERMUDAS.—Introduced. Common in some parts of the islands—*Jones; Moseley; Lefroy.*

Introduced from Europe soon after the settlement of the islands.

The "*Olea americana*, Linn.," of Lane's list, is probably an error, as that species has not been found by later collectors.

Forestiera porulosa, Poir.

Forestiera porulosa, Poir. in Lam. Encycl. Suppl., ii. p. 664; Griseb., Fl. Brit. W. Ind., p. 406 (excl. syn. *Piptolepis phillyreoides*, Benth.); Chapm., Fl. Southern U.S., p. 370.
Myrica segregata, Jacq., Ic. Pl. Rar., t. 625.

BERMUDAS.—Indigenous. Walsingham—*Lefroy;* Boaz Island—*Reade.*

Florida; West Indies.

Sir J. H. Lefroy and Mr Reade are the only collectors of this interesting shrub, the female of which, the former states, is very rare. The Bermudan specimens have rather larger leaves than the Floridan and West Indian, and the pores, so conspicuous in the other specimens, are almost obsolete in the Bermudan. Specimens in the Kew Herbarium cultivated in Europe, and Jacquin's figure, come much nearer the insular plant.

We suspect this to be the "Wild Olive" of the first settlers.

Jasminum gracile, Andr.

Jasminum gracile, Andr., Bot. Repos., t. 127; Griseb., Fl. Brit. W. Ind., p. 406.
Jasminum geniculatum, Vent., Choix., t. 8.
Jasminum volubile, Jacq., Hort. Schœnb., t. 321.

BERMUDAS.—Introduced. Common among rocks at the caves near Walsingham—*Lefroy;* without locality—*Reade.*

Pacific Islands. Naturalised in Jamaica.

APOCYNACEÆ.

Nerium oleander, Linn.

Nerium oleander, Linn., Sp. Pl., ed. 1, p. 209; DC., Prodr., viii. p. 420; Gray, Synop. Fl. N. Am., ii. p. 79.

BERMUDAS.—Introduced. Common in a wild state—*Rein; Jones; Lefroy.*

Southern Europe and Western Asia. Introduced into the Bermudas about eighty years ago, and commonly planted for hedges; and now one of the most general and conspicuous shrubs in the islands.

ASCLEPIADEÆ.

Asclepias curassavica, Linn.

Asclepias curassavica, Linn., Sp. Pl., ed. 1, p. 215; Griseb., Fl. Brit. W. Ind., p. 419; Chapm., Fl. Southern U.S., p. 364; Desc., Fl. Ant., ii. p. 116.

BERMUDAS.—Introduced. Common throughout the islands—*Lane; Rein; Jones.*

Florida, West Indies, and Tropical America generally; and now naturalised in most other warm countries.

According to Mr Jones, the leaves of this plant form the only food in the islands of the caterpillar of *Danais archippus.*

LOGANIACEÆ.

Buddleia madagascariensis, Lam.

Buddleia madagascariensis, Lam., Encycl., i. p. 513; DC., Prodr., x. p. 447; Bot. Mag., t. 2824.

BERMUDAS.—Introduced. *Moseley; Lefroy.*

Madagascar and Mauritius; and naturalised in many other countries.

Jones's list includes *Buddleia americana*, Linn., which he states is common by the roadside in Paget parish. It is widely spread in the West Indies and Tropical and Sub-tropical America.

GENTIANEÆ.

Erythræa texensis, Griseb.

Erythræa texensis, Griseb., Gen. et Sp. Gent., p. 139; Gray, Synop. Fl. N. Am., ii. p. 112.

BERMUDAS.—Introduced. Common—*Lefroy; Moseley; Reade.*

Texas.

All the specimens that we have seen certainly belong to this species. Jones, however, enumerates *Erythræa ramosissima*, Pers., a European species which is naturalised in some parts of North America. He states that it is a very common weed in the islands. Lane's list includes *Erythræa centaurium*, Pers. It is possible, of course, that all three species have been introduced; but as only one occurs in the collections, it is probable that only that one exists in the islands.

HYDROPHYLLACEÆ.

Nama jamaicense, Linn.

Nama jamaicense, Linn., Sp. Pl., ed. 2, p. 327; Griseb., Fl. Brit. W. Ind., p. 477; Chapm., Fl. Southern U.S., p. 337.

BERMUDAS.—Indigenous? Roadsides, &c.—*Lane; Rein; Moseley; Lefroy.*

Florida; Texas; Mexico; West Indies.

BORAGINEÆ.

Tournefortia gnaphalodes, R. Br.

Tournefortia gnaphalodes, R. Br., Prodr. Fl. N. Holl., p. 496, *in nota;* Griseb., Fl. Brit. W. Ind., p. 483; Chapm., Fl. Southern U.S., p. 329.

Heliotropium gnaphalodes, Linn., Syst. Nat., ed. 10, ii. p. 913; Jacq., Sel. Stirp. Am., p. 25, t. 173, fig. 11.

BERMUDAS.—Indigenous. Common on the coast—*Lane; Rein; Moseley; Lefroy.*

Florida and throughout the West Indies, especially in maritime districts.

Tournefortia laurifolia, Vent., is in Jones's list, though without locality or other note.

Heliotropium curassavicum, Linn.

Heliotropium curassavicum, Linn., Sp. Pl., ed. 1, p. 130; Griseb., Fl. Brit. W. Ind., p. 486; Chapm., Fl. Southern U.S., p. 330.

BERMUDAS.—Indigenous? Salt marshes—*Lefroy.*

North Carolina to Patagonia; also common on the coasts of Australia, Southern Africa, and some of the Pacific Islands.

CONVOLVULACEÆ.

Ipomœa jamaicensis, G. Don.

Ipomœa jamaicensis, G. Don, Gen. Syst., iv. p. 278; Griseb., Fl. Brit. W. Ind., p. 473; Mart., Fl. Bras., vii. p. 225.

BERMUDAS.—Indigenous? Without locality—*Rein.*

Jamaica; Panama; Brazil.

Ipomœa acuminata, Rœm. et Schult.

Ipomœa acuminata, Rœm. et Schult., Syst. Veg., iv. p. 228; Griseb., Fl. Brit. W. Ind., p. 473.
Pharbitis acuminata, Choisy in DC. Prodr., ix. p. 342.

BERMUDAS.—Indigenous? Without locality—*Moseley.*

West Indies and Guatemala to Brazil.

Ipomaea sidaefolia, Choisy
By roadside. Devonshire.
Jan. 1900

Ipomœa nil, Roth.

Ipomœa nil, Roth, Cat. Bot., i. p. 36; Griseb., Fl. Brit. W. Ind., p. 473.
Pharbitis nil, Choisy in DC. Prodr., ix. p. 343, *pro parte;* Chapm., Fl. Southern U.S., p. 342.

BERMUDAS.—Introduced. Without locality or memorandum—*Lefroy.*

Generally diffused in the warmer parts of America, Africa, Asia, and Australia.

Ipomœa pes-capræ, Sweet.

Ipomœa pes-capræ, Sweet, Hort. Suburb. Londin., p. 35; DC., Prodr., ix. p. 349; Griseb., Fl. Brit. W. Ind., p. 470; Chapm., Fl. Southern U.S., p. 342.

BERMUDAS.—Indigenous. Common on the sandy parts of the coast—*Lane; Rein; Moseley.*

General on sandy sea-shores throughout the tropics, and extending to sub-tropical countries.

Ipomœa purpurea, Lam.

Ipomœa purpurea, Lam. ex Meissn., in Mart. Fl. Bras., vii. p. 223; Griseb., Fl. Brit. W. Ind., p. 473.
Pharbitis hispida, Choisy in DC. Prodr., ix. p. 341; Chapm., Fl. Southern U.S., p. 342.
Convolvulus purpureus, Linn., Sp. Pl., ed. 2, p. 219.

BERMUDAS.—Introduced. Caves, Walsingham—*Lane.*

West Indies and Tropical America. Naturalised in many other countries.

Ipomœa sagittata, Cav.

Ipomœa sagittata, Cav., Ic. Pl., ii. p. 4, t. 107; Gray, Synop. Fl. N. Am., ii. p. 212.
Ipomœa sagittifolia, Ker, Bot. Reg., t. 437; Chapm., Fl. Southern U.S., p. 344.
Convolvulus sagittifolius, Michx., Fl. Bor.-Am., i. p. 138.

BERMUDAS.—Indigenous? Shelly Bay Swamp—*Lefroy.*

North Carolina to Florida and Texas; also Spain and Barbary.

A salt-marsh and maritime plant, probably introduced in the Old World.

Ipomœa villosa, Ruiz et Pav.

Ipomœa villosa, Ruiz et Pav., Fl. Peruv. et Chil., ii. p. 12, t. 121, fig. b.; Griseb., Fl. Brit. W. Ind., p. 473.

BERMUDAS.—Indigenous? Shelly Bay Swamp—*Lefroy.*

West Indies; Peru. A maritime plant which, like some other species of the genus, probably springs up from seed cast ashore by the waves.

Convolvulus jamaicensis, Jacq.

Convolvulus jamaicensis, Jacq., Obs., iii. p. 6; Griseb., Fl. Brit. W. Ind., p. 474.

BERMUDAS.—Indigenous? Without locality—*Rein.*

Bahamas to Hayti and Jamaica, where it is almost confined to the coast region.

Dichondra repens, Forst.

Dichondra repens, Forst., Char. Gener., p. 40, t. 20; Griseb., Fl. Brit. W. Ind., p. 476; Chapm. Fl. Southern U.S., p. 346.

BERMUDAS.—Indigenous. Marshes—*Moseley;* pastures—*Lane;* without locality—*Rein.*

Generally diffused in Temperate and Tropical America, Tropical Asia, Southern Africa, Australia, New Zealand, and the Pacific Islands.

SOLANACEÆ.

Solanum aculeatissimum, Jacq.

Solanum aculeatissimum, Jacq., Ic. Pl. Rar., t. 41; Griseb., Fl. Brit. W. Ind., p. 442; Chapm., Fl. Southern U.S., p. 349.

BERMUDAS.—Introduced? Without locality—*Rein.*

A widely spread species in Tropical and Sub-tropical America.

Mr Moseley collected an imperfect specimen of a *Solanum*, which may be this, or *Solanum mammosum*, Linn.; and Sir J. H. Lefroy records *Solanum torvum*, Sw., in his list, on the authority of the late General Munro. The latter is also in Jones's list.

Solanum nigrum, Linn.

Solanum nigrum, Linn., Sp. Pl., ed. 1, p. 186; Chapm., Fl. Southern U.S., p. 348.
Solanum nodiflorum, Jacq., Ic. Pl. Rar., t. 326; Griseb., Fl. Brit. W. Ind., p. 437.

BERMUDAS.—Introduced. Waste places—*Lane; Rein.*

This is now generally diffused in temperate and tropical regions throughout the world.

Nicandra physaloides, Gærtn.

Nicandra physaloides, Gærtn., Fruct., ii. p. 237, t. 131; Chapm., Fl. Southern U.S., p. 351.

BERMUDAS.—Introduced. Ireland Island—*Lane.*

Peru, and naturalised in most warm countries.

Physalis lanceolata, Michx.

Physalis lanceolata, Michx., Fl. Bor.-Am., i. p. 149; Chapm., Fl. Southern U.S., p. 350.

BERMUDAS.—Introduced. Walsingham—*Lane.*

Florida to North Carolina, in dry sandy soil and near the sea.

[*Physalis peruviana*, Linn., a commonly cultivated and widely spread species, is included in Jones's list.]

Datura stramonium, Linn.

Datura stramonium, Linn., Sp. Pl., ed. 1, p. 179; Griseb., Fl. Brit. W. Ind., p. 434; Chapm., Fl. Southern U.S., p. 352.

BERMUDAS.—Introduced. Common—*Lane; Jones; Rein; Lefroy.*

General in the temperate and tropical zones of both hemispheres, though it is uncertain where it is really indigenous.

Datura tatula, Linn.

Datura tatula, Linn., Sp. Pl., ed. 2, p. 256; Griseb., Fl. Brit. W. Ind., p. 434.

Datura stramonium β tatula, Dcne. in DC. Prodr., xiii. 1, p. 540; Chapm., Fl. Southern U.S., p. 352.

BERMUDAS.—Introduced. Paget parish—*Lefroy.*

Nearly as widely dispersed as the last, of which some botanists regard it as a variety.

Nicotiana tabacum, Linn.

Nicotiana tabacum, Linn., Sp. Pl., ed. 1, p. 180; Griseb., Fl. Brit. W. Ind., p. 434.

BERMUDAS.—Introduced. Roadsides—*Jones.*

Tobacco was cultivated by the earliest settlers, and often springs up in a wild condition. In Silvester Jourdan's narrative of A Discovery of the Barmudas, otherwise called the Isle of Divels (Hakluyt, new ed. v. p. 558), it is stated that very good tobacco was found wild in the islands by Sir George Somers and his people, wrecked there in 1609.

Nicotiana glauca, Grah., an arboreous species, was sent from Pembroke churchyard by Sir J. H. Lefroy and Mr Reade, where it was probably planted.

SCROPHULARINEÆ.

Verbascum thapsus, Linn.

Verbascum thapsus, Linn., Sp. Pl., ed. 1, p. 177; Chapm., Fl. Southern U.S., p. 288; Gray, Manual, ed. 5, p. 325.

BERMUDAS.—Introduced. Common—*Michaux; Lane; Jones; Lefroy.*

Europe and temperate Asia.

This is locally known as "Aaron's Rod;" and it was very common in 1806, when Michaux visited the islands. Jones states that it is one of the most striking plants.

Linaria elatine, Mill.

Linaria elatine, Mill., Dict., n. 16; DC., Prodr., x. p. 268; Chapm., Fl. Southern U.S., p. 291.

BERMUDAS.—Introduced. A common weed in cultivated ground—*Rein; Reade.*

Europe, Northern Africa, and Western Asia, and naturalised in other countries.

Linaria vulgaris, Mill.

Linaria vulgaris, Mill., Dict.; DC., Prodr., x. p. 273; Chapm., Fl. Southern U.S., p. 290; Griseb., Fl. Brit. W. Ind., p. 431.

BERMUDAS.—Introduced. Common in cultivated ground—*Jones; Reade.*

Europe and Northern Asia; introduced in North America and elsewhere.

Pentstemon pubescens, Solander.

Pentstemon pubescens, Solander in Ait. Hort. Kew, ed. 1, iii. p. 360; Chapm., Fl. Southern U.S., p. 290.

BERMUDAS.—Introduced. Without locality—*Rein.*

A native of eastern North America, ranging from Canada to Florida and Texas.

Herpestis monniera, H. B. K.

Herpestis monniera, H. B. K., Nov. Gen. et Sp., ii. p. 366; Griseb., Fl. Brit. W. Ind., p. 430; Chapm., Fl. Southern U.S., p. 292.

BERMUDAS.—Indigenous. Somerset Island—*Lefroy;* without locality—*Rein; Reade.*

Nearly all tropical and sub-tropical countries; inhabiting marshy and maritime places.

Capraria biflora, Linn.

Capraria biflora, Linn., Sp. Pl., ed. 1, p. 628; Griseb., Fl. Brit. W. Ind., p. 427; Chapm., Fl. Southern U.S., p. 296.

BERMUDAS.—Introduced. Paget parish—*Lefroy;* Hamilton—*Lane.*

Florida and Mexico to Peru and Brazil.

Locally known as "Tea-plant." "Introduced into the islands about fifty years ago by Dr Hinson."—J. H. Darrell in a communication to Sir J. H. Lefroy.

Veronica agrestis, Linn.

Veronica agrestis, Linn., Sp. Pl., ed. 1, p. 13; Chapm., Fl. Southern U.S., p. 296; Gray, Manual, ed. 5, p. 333.

BERMUDAS.—Introduced. *Lane; Lefroy; Reade.*

North temperate zone in the Old World, and naturalised in many other parts of the world.

Veronica arvensis, Linn.

Veronica arvensis, Linn., Sp. Pl., ed. 1, p. 13; Chapm., Fl. Southern U.S., p. 296.

BERMUDAS.—Introduced. *Moseley; Lefroy.*

North temperate zone in the Old World, and introduced into other countries.

Veronica peregrina, Linn.

Veronica peregrina, Linn., Sp. Pl., ed. 1, p. 14; Gray, Manual, ed. 5, p. 333; Chapm., Fl. Southern U.S., p. 295.

BERMUDAS.—Introduced. Collected only by Lefroy.

A very widely spread weed of cultivation, supposed by some writers to be of American origin, though Gray states that it appears like an introduced weed in the Northern States.

BIGNONIACEÆ.

Crescentia cujete, Linn.

Crescentia cujete, Linn., Sp. Pl., ed. 1, p. 626; Griseb., Fl. Brit. W. Ind., p. 445; Desc., Fl. Ant., iv. p. 244.

BERMUDAS.—Introduced. Common in low grounds—*Lane; Jones; Rein.*

West Indies and Mexico to Brazil, commonly growing in marshy and swampy places.

Rein states that this tree has every appearance of being indigenous, yet he suspects that it was originally introduced.

[*Tecoma pentaphylla,* DC., locally known as "White Cedar," a West Indian arboreous member of this order, is commonly cultivated in the islands.]

VERBENACEÆ.

Phryma leptostachya, Linn.

Phryma leptostachya, Linn., Sp. Pl., ed. 1, p. 601; Chapm., Fl. Southern U.S., p. 310.

BERMUDAS.—Indigenous? *Moseley; Lefroy.*

General in eastern North America; also in Northern India, China, and Japan.

Lantana camera, Linn.

Lantana camera, Linn., Sp. Pl., ed. 1, p. 627; Griseb., Fl. Brit. W. Ind., p. 495; Chapm., Fl. Southern U.S., p. 308.

BERMUDAS.—Introduced. Common—*Moseley; Jones.*

Generally spread in the warmer parts of America, and now naturalised in many other countries.

Jones states that a few years ago it was only known in a few localities, but is now (1873) fast spreading over the islands. In shaded places it grows luxuriantly, running up among the branches of the cedars to a height of twenty or thirty feet. "Prickly Sage" and "Red Sage" of the islanders. In a communication to Sir J. H. Lefroy, the Hon. J. H. Darrell states that it was introduced into the islands from Madeira, about 1818 or 1819, by Mr Tucker of River's Island.

Lantana crocea, Jacq.

Lantana crocea, Jacq., Hort. Schœnb., t. 473; Griseb., Fl. Brit. W. Ind., p. 496.

BERMUDAS.—Introduced. Without any locality or remarks—*Rein.*

West Indies; Guiana.

Lantana involucrata, Linn.

Lantana involucrata, Linn., Amœn. Acad., iv. p. 319; Chapm., Fl. Southern U.S., p. 308; Griseb., Fl. Brit. W. Ind., p. 496.
Lantana odorata, Linn., Syst. Nat., ed. 13, ii. p. 418.

BERMUDAS.—Introduced. Common all over the islands—*Lane; Holton; Jones; Rein; Lefroy.*

Florida, West Indies, Mexico, and north part of South America.

This is apparently the commonest shrubby plant in the islands, where it is known as the "Common Sage." It was abundant when Michaux visited the islands in 1806, and were there not evidence to the contrary, we should have supposed that it reached them independently of human agency. The Hon. J. H. Darrell writes concerning this shrub—"This was brought here from the Bahamas (as I was told by my father) by Colonel Spofforth, in the latter part of the last century, with the view of using it as fuel for ovens and limekilns, so as to diminish the great consumption of cedar trees for those purposes."

Lippia nodiflora, Michx.

Lippia nodiflora, Michx., Fl. Bor.-Am., ii. p. 15; Chapm., Fl. Southern U.S., p. 308; Griseb., Fl. Brit. W. Ind., p. 494.

BERMUDAS.—Indigenous. Common—*Moseley; Rein; Lefroy; Reade.*

Cosmopolitan in tropical and sub-tropical regions, flourishing in almost any soil or situation. The "*Lippia reptans*" of Lane's list is probably this plant.

Stachytarpheta jamaicensis, Vahl.

Stachytarpheta jamaicensis, Vahl, Enum., i. p. 206; Griseb., Fl. Brit. W. Ind., p. 494; Chapm., Fl. Southern U.S., p. 308 (*Stachytarpha*).

BERMUDAS.—Indigenous? Very common—*Lane; Jones; Lefroy; Moseley.*

Florida and Mexico to Brazil, and naturalised in Tropical Asia and Africa.

Priva echinata, Juss.

Priva echinata, Juss. in Ann. Mus. Hist. Nat. Par., vii. p. 69; Griseb., Fl. Brit. W. Ind., p. 493; Chapm., Fl. Southern U.S., p. 306.

BERMUDAS.—Indigenous? *Munro.*

Florida and Mexico to Brazil: a plant easily disseminated by means of the hooked hairs on the seed-vessel.

Verbena urticæfolia, Linn.

Verbena urticæfolia, Linn., Sp. Pl., ed. 1, p. 20; Griseb., Fl. Brit. W. Ind., p. 493; Chapm., Fl. Southern U.S., p. 307.

BERMUDAS.—Indigenous? Without locality—*Moseley*. Also in the Sloane Herbarium, clix. p. 47 ("a strong emetick").

Canada to Florida, Mexico, and the West Indies.

Lefroy records *Verbena officinalis*, Linn., in his list, a plant not unlikely to occur.

[*Citharexylum quadrangulare*, Jacq., is in some collections, whether wild or not has not been ascertained.]

Duranta plumieri, Jacq.

Duranta plumieri, Jacq., Sel. Stirp. Am., p. 186, t. 176, fig. 76; Griseb., Fl. Brit. W. Ind., p. 498; Chapm., Fl. Southern U.S., p. 309.

BERMUDAS.—Indigenous? Quite common—*Lefroy; Moseley; Reade.*

Florida and Mexico to Brazil; also in Tropical Africa.

[In the Banksian collection at the British Museum, there is a flowering specimen of a *Petræa* (*Petræa volubilis?*) from "Bermudas."]

Avicennia nitida, Jacq.

Avicennia nitida, Jacq., Sel. Stirp. Am., p. 177, t. 112, fig. 1; Griseb., Fl. Brit. W. Ind., p. 502; Gray, Synop. Fl. N. Am., ii. p. 341.

Avicennia tomentosa, Nutt.? and *Avicennia tomentosa*, Jacq. in Chapm., Fl. Southern U.S., p. 310.

BERMUDAS.—Indigenous. Everywhere in salt marshes associated with *Rhizophora*—*Lane; Rein; Jones; Moseley; Lefroy.*

Florida, West Indies, and Mexico to Brazil; also in Tropical Africa.

Locally known as "Black Mangrove."

LABIATÆ.

Mentha rotundifolia, Linn.

Mentha rotundifolia, Linn., Sp. Pl., ed. 2, p. 805; Chapm., Fl. Southern U.S., p. 312.

BERMUDAS.—Introduced. Wild by roadsides—*Lefroy; Reade.*

Europe, North Africa, and Temperate Asia, though frequently occurring only as a colonist.

Pycnanthemum muticum, Pers.

Pycnanthemum muticum, Pers., Ench., ii. p. 128; Chapm., Fl. Southern U.S., p. 315.

Brachystemum muticum, Michx., Fl. Bor.-Am., ii. p. 6, t. 32.

BERMUDAS.—Introduced. Without locality—*Rein.*

Maine to Ohio and Florida, usually growing in dry or sandy soil.

Calamintha officinalis, Mœnch.

Calamintha officinalis, Mœnch, Meth. Pl., p. 409; DC., Prodr., xii. p. 228.
Melissa calamintha, Linn., Sp. Pl., ed. 1, p. 593.

Bermudas.—Introduced. Without locality—*Rein.*

North temperate regions of the Old World, formerly commonly cultivated.

Salvia coccinea, Linn.

Salvia coccinea, Linn., fil., Sp. Pl. Suppl., p. 88; Griseb., Fl. Brit. W. Ind., p. 490; Gray, Synop. Fl. N. Am., ii. p. 368.

Bermudas.—Introduced. Common—*Lane; Rein; Moseley.*

Carolina to Florida (" but probably introduced "—*A. Gray*), West Indies, Mexico, and South America.

Salvia occidentalis, Swartz.

Salvia occidentalis, Swartz, Fl. Ind. Occ., i. p. 43; Griseb., Fl. Brit. W. Ind., p. 490; Gray, Synop. Fl. N. Am., ii. p. 370.

Bermudas.—Introduced? Walsingham—*Lane*; without locality—*Moseley.*

Florida, West Indies, and Mexico to Peru, abounding in waste places and as a weed of cultivation.

Salvia serotina, Linn.

Salvia serotina, Linn., Mant., p. 25; Griseb., Fl. Brit. W. Ind., p. 490; Chapm., Fl. Southern U.S., p. 319.

Bermudas.—Introduced? Roadsides, &c.—*Lane; Rein; Moseley.*

South Florida, and throughout the West Indies.

Marrubium vulgare, Linn.

Marrubium vulgare, Linn., Sp. Pl., ed. 1, p. 583; Gray, Synop. Fl. N. Am., ii. p. 384.

Bermudas.—Introduced. *Rein.*

North temperate regions of the Old World, and introduced into North America.

Sideritis romana, Linn.

Sideritis romana, Linn., Sp. Pl., ed. 1, p. 575; DC., Prodr., xii. p. 445; Sibthorp, Fl. Græc., t. 552.

Bermudas.—Introduced. *Rein.*

An inhabitant of the Mediterranean region, and probably only of casual occurrence in the islands.

Leonurus sibiricus, Linn.

Leonurus sibiricus, Linn., Sp. Pl., ed. 1, p. 584; Griseb., Fl. Brit. W. Ind., p. 491; Gray, Synop. Fl. N. Am., ii. p. 385.

Bermudas.—Introduced. Roadsides—*Moseley; Lefroy.*

Europe and Siberia, and naturalised in many other countries.

Lamium amplexicaule, Linn.

Lamium amplexicaule, Linn., Sp. Pl., ed. 1, p. 579; Chapm., Fl. Southern U.S., p. 325.

BERMUDAS.—Introduced. *Rein; Moseley.*

North temperate regions of the Old World, and naturalised in many other countries.

PLANTAGINACEÆ.

Plantago lanceolata, Linn.

Plantago lanceolata, Linn., Sp. Pl., ed. 1, p. 113; Chapm., Fl. Southern U.S., p. 278.

BERMUDAS.—Introduced. Common—*Lane; Rein; Moseley.*

North temperate regions of the Old World, and widely dispersed as a colonist.

Plantago major, Linn.

Plantago major, Linn., Sp. Pl., ed. 1, p. 112; Chapm., Fl. Southern U.S., p. 277; Griseb., Fl. Brit. W. Ind., p. 389.

BERMUDAS.—Introduced. Very common—*Michaux; Lane; Rein; Moseley.*

Indigenous or naturalised in all temperate and tropical climates.

Plantago virginica, Linn.

Plantago virginica, Linn., Sp. Pl., ed. 1, p. 113; Chapm., Fl. Southern U.S., p. 278; Griseb., Fl. Brit. W. Ind., p. 389.

BERMUDAS.—Indigenous? Without locality—*Lane; Lefroy;* Boaz Island—*Reade.*

New England to Florida, Mexico, and West Indies.

Mr Reade writes: "When first I came here [Royal Naval Hospital] *Plantago virginica* was very common on unenclosed land around my house; but when I put poultry on the ground they exterminated it by eating the unexpanded flower-buds, while the introduced species, *Plantago media* [*major?*] and *Plantago lanceolata*, thrive vigorously. Governor Lefroy found *Plantago virginica* near Flatts Village, some eighteen miles from here by road; but it seems now to be about extinct."

INCOMPLETÆ.

NYCTAGINEÆ.

Boerhaavia erecta, Linn.

Boerhaavia erecta, Linn., Sp. Pl., ed. 1, p. 3; Chapm., Fl. Southern U.S., p. 373; Griseb., Fl. Brit. W. Ind., p. 69.

BERMUDAS.—Introduced? Paynter's Vale—*Lefroy;* common—*Reade.*

South Carolina to Florida, Mexico, and Central America; and in the West Indies.

Locally known as "Hogweed."

Mirabilis jalapa, Linn.

Mirabilis jalapa, Linn., Sp. Pl., ed. 1, p. 177; Griseb., Fl. Brit. W. Ind., p. 69.

Bermudas.—Introduced. *Lane; Lefroy.*

Mexico and West Indies. Cultivated and commonly naturalised in many other countries.

AMARANTACEÆ.

Amarantus hybridus, Linn.

Amarantus hybridus, Linn., Sp. Pl., ed. 1, p. 990; Chapm., Fl. Southern U.S., p. 380.

Bermudas.—Introduced. Paynter's Vale—*Lefroy.*

Virginia to Florida and Mexico.

This is regarded by some botanists as a variety of the widely spread *Amarantus retroflexus*, Linn.

Amarantus spinosus, Linn.

Amarantus spinosus, Linn., Sp. Pl., ed. 1, p. 991; Griseb., Fl. Brit. W. Ind., p. 68; Chapm., Fl. Southern U.S., p. 380.

Bermudas.—Introduced. Amongst rubbish—*Lane.*

A very widely spread weed in warm countries.

CHENOPODIACEÆ.

Chenopodium album, Linn.

Chenopodium album, Linn., Sp. Pl., ed. 1, p. 219; Chapm., Fl. Southern U.S., p. 376.

Bermudas.—Introduced. David Island—*Lefroy.*

A native of the Old World; and a weed of cultivation in all temperate and sub-tropical countries.

Chenopodium ambrosioides, Linn.

Chenopodium ambrosioides, Linn., Sp. Pl., ed. 1, p. 219; Griseb., Fl. Brit. W. Ind., p. 60, var. *anthelminticum;* Gray, Manual, ed. 5, p. 408; Linn., Sp. Pl., ed. 1, p. 220 (species); Chapm., Fl. Southern U.S., p. 377.

Bermudas.—Introduced. A weed in cultivated ground—*Lefroy.*

Throughout Tropical and Sub-tropical America, and naturalised in many other parts of the world.

Atriplex cristata, Humb. et Bonpl.

Atriplex cristata, Humb. et Bonpl. ex Willd., Sp. Pl., iv. p. 959.
Obione cristata, Moq. in DC. Prodr., xiii. 2, p. 110.

Bermudas.—Indigenous. Common in salt marshes—*Lefroy.*

Cuba, San Domingo, and Venezuela to Peru.

Salicornia ambigua, Michx.

Salicornia ambigua, Michx., Fl. Bor.-Am., i. p. 2; Griseb., Fl. Brit. W. Ind., p. 60; Chapm., Fl. Southern U.S., p. 378; Gray, Manual, ed. 5 (var. *Salicorniæ fruticosæ*).
Arthrocnemum ambiguum, Moq., Chenop. Enum., p. 112.

BERMUDAS.—Indigenous. Abundant on the coast—*Lane; Rein; Moseley; Lefroy.*

Eastern coast of North America, West Indies and South America, and also in the Old World, if only a variety of *Salicornia fruticosa.*

Boussingaultia baselloides, H. B. K.

Boussingaultia baselloides, H. B. K., Nov. Gen. et. Sp., vii. p. 196, t. 645 bis; DC., Prodr., xiii. 2, p. 228.

BERMUDAS.—Introduced? David Island—*Lefroy.*

Martinique and Mexico southward to Brazil.

POLYGONACEÆ.

Polygonum acre, H. B. K.

Polygonum acre, H. B. K., Nov. Gen. et. Sp., ii. p. 179; Griseb., Fl. Brit. W. Ind., p. 161; Chapm., Fl. Southern U.S., p. 389; Mart., Fl. Bras., xiv. t. 5.

BERMUDAS.—Indigenous. Water-holes and ditches—*Lefroy; Moseley.*

Massachusetts to Buenos Ayres, inhabiting ditches and other wet situations.

Rumex crispus, Linn.

Rumex crispus, Linn., Sp. Pl., ed. 1, p. 335; Chapm., Fl. Southern U.S., p. 385.

BERMUDAS.—Introduced. *Lane; Moseley.*

North temperate regions of the Old World, and naturalised in North America, &c.

Rumex pulcher, Linn.

Rumex pulcher, Linn., Sp. Pl., ed. 1, p. 336; Chapm., Fl. Southern U.S., p. 386.

BERMUDAS.—Introduced. *Moseley.*

North temperate regions of the Old World, and naturalised very widely.

Coccoloba uvifera, Jacq.

Coccoloba uvifera, Jacq., Sel. Stirp. Am., p. 112, t. 73; Griseb., Fl. Brit. W. Ind., p. 161; Chapm., Fl. Southern U.S., p. 391.

BERMUDAS.—Indigenous? Sandhills—*Lane;* common in sandy places near the shore —*Jones; Lefroy;* here and there, but nowhere in large numbers—*Rein.*

Florida, West Indies, and Venezuela to Brazil.

In a list of indigenous and introduced shrubs and trees furnished by the Hon. J. H. Darrell to Sir J. H. Lefroy, this tree is marked as from the West Indies, though no particulars are given of its introduction into the Bermudas. Among Sir J. H. Lefroy's notes are some dimensions of trees of *Coccoloba uvifera* growing at Ardsheal. One had a trunk six feet four inches in girth. But the writer says, "These may be called upright branches rather than stems, many of them springing from a very broad base or trunk only two or three feet in height, which is supported on a wide mass of thick and knotted roots that are only partially covered by the sandy earth. One of these short trunks measures twenty-one feet ten inches round, and has seven erect stems or branches."

PIPERACEÆ.

Peperomia magnoliæfolia, A. Dietr.

Peperomia magnoliæfolia, A. Dietr., Sp. Pl., i. p. 153; Chapm., Fl. Southern U.S., Suppl., p. 645; DC., Prodr., xvi. 1, p. 427.
Piper magnoliæfolium, Jacq., Ic. Pl. Rar., t. 213.
Peperomia amplexicaulis, Dietr. (varietates) ex Griseb., Fl. Brit. W. Ind., p. 166.

BERMUDAS.—Indigenous. The caves—*Moseley; Lefroy.*

Florida, West Indies, and Mexico.

Grisebach, *loc. cit.*, and C. de Candolle (in DC. Prodr., xvi. 1, pp. 425, 427, et 429), do not agree in their limitations of this species, *Peperomia amplexicaulis* and *Peperomia obtusifolia*, and it is not quite clear which name the Bermudan plant should bear.

EUPHORBIACEÆ.

Euphorbia buxifolia, Lam.

Euphorbia buxifolia, Lam., Encycl. ii. p. 421; Griseb., Fl. Brit. W. Ind., p. 53; Desc., Fl. Ant., vi. p. 418.
Euphorbia glabrata, Swartz, Prodr., p. 76.
Euphorbia littoralis, et *Euphorbia flexuosa*, H. B. K., Nov. Gen. et Sp., ii. pp. 54 et 55; Chapm., Fl. Southern U.S., p. 403.
Tithymalus maritimus barbadensis et bermudensis, Pluk. Alm., p. 371, et Phytogr., t. 229, fig. 7.

BERMUDAS.—Indigenous. St. George—*Holton;* common on sea-shore—*Lefroy; Lane; Jones;* abundant in crevices of rocks—*Reade.* And in Sloane's Herbarium, xcviii. p. 107.

A shrubby maritime species in Florida and Mexico to Venezuela, and throughout the West Indies.

Euphorbia heterophylla, Linn.

Euphorbia heterophylla, Linn., Amœn. Acad., iii. p. 112; Griseb., Fl. Brit. W. Ind., p. 54; DC., Prodr., xvi. 1, p. 72 (varietates).
Euphorbia cyathophora, Murr., Comm. Gœtt., vii. p. 81, t. 1; Jacq., Ic. Pl. Rar., t. 480; Chapm., Fl. Southern U.S., p. 402.

BERMUDAS.—Introduced? Common—*Rein; Moseley; Lefroy; Reade.*

Eastern North America, from Illinois southward, and through the West Indies and Mexico to Peru and Brazil.

Locally known as "Joseph's Coat."

Euphorbia hypericifolia, Linn.

Euphorbia hypericifolia, Linn., Hort. Cliff., p. 198; DC., Prodr., xv. 2, p. 23; Griseb., Fl. Brit. W. Ind., p. 54; Chapm., Fl. Southern U.S., p. 403; Hook, Exot. Fl., t. 36.

BERMUDAS.—Introduced? Common—*Moseley; Lefroy.*

Eastern States of North America, West Indies, Mexico, and South America.

Euphorbia maculata, Linn.

Euphorbia maculata, Linn., Sp. Pl., ed. 1, p. 455, nec Linn. Mant., ex Boiss in DC. Prodr., xv. 2, p. 46; Jacq., Hort. Vindob., t. 186; Griseb., Fl. Brit. W. Ind., p. 53; Chapm., Fl. Southern U.S., p. 403.

BERMUDAS.—Introduced. Common—*Lefroy.*

Canada to Florida, Mexico, and the West Indies.

Euphorbia peplus, Linn.

Euphorbia peplus, Linn., Sp. Pl., ed. 1, p. 456; Griseb., Fl. Brit. W. Ind., p. 54; Gray, Manual, ed. 5, p. 435.

BERMUDAS.—Introduced. Common—*Holton; Lane; Rein; Moseley; Lefroy.*

North temperate regions of the Old World, and widely colonised.

Euphorbia prostrata, Ait.

Euphorbia prostrata, Ait., Hort. Kew., ed. 1, ii. p. 139; Griseb., Fl. Brit. W. Ind., p. 53; Chapm., Fl. Southern U.S., Suppl., p. 647.

BERMUDAS.—Introduced? Common—*Lefroy; Reade.*

Louisiana and Texas southward to Peru and Brazil; also in Tropical Africa, and naturalised in Sicily and elsewhere.

Phyllanthus niruri, Linn.

Phyllanthus niruri, Linn., Sp. Pl., ed. 1, p. 981; Griseb., Fl. Brit. W. Ind., p. 34; Chapm., Fl. Southern U.S., p. 410.

BERMUDAS.—Introduced. A weed in cultivated ground—*Lefroy.*

Generally diffused in warm countries.

Jatropha curcas, Linn.

Jatropha curcas, Linn., Sp. Pl., ed. 1, p. 1006; Griseb., Fl. Brit. W. Ind., p. 36; Desc., Fl. Ant., ii. p. 141.

BERMUDAS.—Introduced? Paynter's Vale Cave—*Lefroy.*

West Indies and Tropical America, and naturalised in most other tropical countries.

Croton maritimus, Walt.

Croton maritimus, Walt., Fl. Carol., p. 239; Chapm., Fl. Southern U.S., p. 407; DC., Prodr., xv. 2, p. 689.

BERMUDAS.—Indigenous. Paget sandhills and other places on the coast, common—*Lefroy; Reade.*

North Carolina to the West Indies, Mexico, and Venezuela.

Mercurialis annua, Linn.

Mercurialis annua, Linn., Sp. Pl., ed. 1, p. 1035; DC., Prodr., xv. 2, p. 797; Chapm., Fl. Southern U.S., Suppl., p. 647.

BERMUDAS.—Introduced. A weed in cultivated ground—*Lefroy; Moseley.*

North temperate regions of the Old World, and naturalised in many other parts.

Ricinus communis, Linn.

Ricinus communis, Linn., Sp. Pl., ed. 1, p. 1007, *pro parte;* DC., Prodr., xv. 2, p. 1017; Griseb., Fl. Brit. W. Ind., p. 37; Chapm., Fl. Southern U.S., p. 409.

BERMUDAS.—Introduced. *Rein; Lefroy.*

Tropical Asia, and naturalised in all warm countries.

URTICACEÆ.

Celtis occidentalis, Linn.

Celtis occidentalis, Linn., Sp. Pl., ed. 1, p. 1044; Chapm., Fl. Southern U.S., p. 417.

BERMUDAS.—Indigenous? The caves—*Lefroy;* near Walsingham—*Reade.*

North Carolina to Florida.

[*Morus rubra*, Linn., and perhaps some other species of the genus, has been cultivated, and exists in a half-wild state.]

Ficus carica, Linn.

Ficus carica, Linn., Sp. Pl., ed. 1, p. 1059; Chapm., Fl. Southern U.S., p. 415.

BERMUDAS.—Introduced. Wild in some places—*Lefroy.*

Imported from Europe early in the seventeenth century, and extensively planted. It probably exists in the islands only as the remains of cultivation, as seedling plants are unknown, apparently, in countries where the Caprifig does not grow. There appears to be no evidence that Sir George Somers met with wild figs when he first landed in the islands. Yet Mr Darrell seems to have been of this opinion, judging from the following communication to Sir J. H. Lefroy:—"I always believed that these *indigenous* fig-trees were left here by the Spaniards who discovered Bermuda before Sir George Somers saw it; and who, no doubt, left here the *indigenous* black hogs Sir George found here."

Urtica chamædryoides, Pursh.

Urtica chamædryoides, Pursh., Fl. Am. Sept., i. p. 113; DC., Prodr., xvi. 1, p. 42 (varietates); Chapm., Fl. Southern U.S., p. 412.

Bermudas.—Indigenous? Without locality—*Lefroy.*

Georgia; Texas; Mexico.

Urtica dioica, Linn.

Urtica dioica, Linn., Sp. Pl., ed. 1, p. 984; Chapm., Fl. Southern U.S., p. 412; Gray, Manual, ed. 5, p. 444.

Bermudas.—Introduced. *Rein; Reade.*

A domestic plant of the Old World, now wild in most temperate and sub-tropical regions.

Urtica urens, Linn.

Urtica urens, Linn., Sp. Pl., ed. 1, p. 984; Chapm., Fl. Southern U.S., p. 412.

Bermudas.—Introduced. *Rein; Moseley.*

Old World, and now nearly as widely spread as the last.

Bœhmeria cylindrica, Willd.

Bœhmeria cylindrica, Willd., Sp. Pl., iv. p. 340; Griseb., Fl. Brit. W. Ind., p. 160; Chapm., Fl. Southern U.S., p. 414.

Bermudas.—Indigenous. Marshes, common—*Moseley; Lefroy.*

Canada to Brazil and Uruguay; exceedingly common in many parts in swampy and shady situations.

Parietaria officinalis, Linn.

Parietaria officinalis, Linn., Sp. Pl., ed. 1, p. 1052; DC., Prodr., xvi. 1, p. 235^{42}.

Bermudas.—Introduced. Common—*Moseley; Reade.*

Introduced from Europe.

Parietaria debilis, Forst.

Parietaria debilis, Forst., Fl. Ins. Austr. Prodr., p. 73; Chapm., Fl. Southern U.S., p. 414.

Bermudas.—Indigenous. Walls in St. George's—*Lefroy;* without locality—*Rein.*

Very widely diffused in temperate and warm regions.

Parietaria pennsylvanica, Mühlenb.

Parietaria pennsylvanica, Mühlenb., Cat. Pl. Am. ex Wedd. in DC. Prodr., xvi. 1, p. 235^{47}; Chapm., Fl. Southern U.S., p. 413.

Bermudas.—Indigenous. North shore—*Lefroy;* without locality—*Moseley.*

Vermont to Wisconsin, and southward to Florida and Mexico.

Pilea microphylla, Liebm.

Pilea microphylla, Liebm. in K. Dansk. Vidensk. Selsk. Skrift., ser. 5, ii. p. 296 (reprint, p. 12).
Pilea muscosa et *Pilea herniarioides*, Lindl., Collect., t. 4; Chapm., Fl. Southern U.S., p. 413; Griseb., Fl. Brit. W. Ind., p. 155.

Bermudas.—Indigenous? *Moseley; Lefroy.*

Generally diffused in Tropical and Sub-tropical America.

MYRICACEÆ.

Myrica cerifera, Linn.

Myrica cerifera, Linn., Sp. Pl., ed. 2, p. 1453; Chapm., Fl., Southern U.S., p. 426.
Myrica punctata, Griseb., Pl. Wright., p. 177?
Myrtus brabantica, Pluk., Alm., p. 250 bis (260), et Phytogr., t. 48, fig. 8 et 9.

Bermudas.—Indigenous. Abundant in the marshes—*Lane; Rein; Moseley; Lefroy.* And in Sloane's Herbarium, ci. p. 49.

A sea-shore and swamp shrub, ranging from Massachusetts to Florida, the Bahamas, and Cuba.

Rein identified his specimens of *Myrica* with *Myrica punctata*, Griseb., which, judging from the specimens so named in Kew Herbarium, is not specifically different from the common *Myrica cerifera*, Linn.

CERATOPHYLLEÆ.

Ceratophyllum demersum, Linn.

Ceratophyllum demersum, Linn., Sp. Pl., ed. 1, p. 992; Griseb., Fl. Brit. W. Ind., p. 12; Chapm., Fl. Southern U.S., p. 398.

Bermudas.—Indigenous. Without locality or other information—*Rein.*

Nearly all over the world, except the colder regions.

This and the other true fresh-water aquatic plants (*Lemna minor* and *Lemna trisulca*) must be exceedingly rare and local, for there is scarcely any fresh water in the islands, except in the rain-water tanks.

MONOCOTYLEDONES.

ORCHIDEÆ.

Spiranthes tortilis, Rich.

Spiranthes tortilis, Rich., Orch. Annot., p. 37; Griseb., Fl. Brit. W. Ind., p. 640; Rein in Bericht Senckenb. Naturf. Gesellsch., Frankf. am M., 1873, p. 151.

Bermudas.—Indigenous. Pembroke marshes—*Lefroy;* without locality—*Moseley;* only two plants were seen growing in an open place amidst *Stenotaphrum americanum*—*Rein;* marshes—*Reade.*

Antigua, Jamaica.

This is the plant referred to in the Journal of the Linnean Society (xiv. p. 319) as *Spiranthes brevifolia*, Chapm., which it is not, as we have since been able to prove by comparison with an authentically named specimen recently acquired for the Kew Herbarium. Mr Moseley informs us that he saw a considerable number of plants.

IRIDEÆ.

Sisyrinchium bermudiana, Linn.

Sisyrinchium bermudiana, Linn., Sp. Pl., ed. 1, p. 954, *pro parte* (*quoad β tantum*); Hemsl. in Journ. Bot. 1884, p. 108.

Sisyrinchium bermudiense, floribus parvis ex cærules et aureo mixtis. Iris phalangoides quorundam, Pluk., Alm., p. 348; Phytogr., t. 61, fig. 2.

Bermudiana iridis folio, fibrosâ radice, Tournef., Inst. Rei Herb., p. 388, t. 108; Dill., Hort. Elth., p. 48, t. 41, fig. 48.

Sisyrinchium iridioides, Curtis, Bot. Mag., t. 94.

Sisyrinchium bermudiana, Mill., Abridg. Dict., ed. 6; Lamark, Encycl. Méthod. Bot., i. p. 408; Redouté, Lil., t. 149.

Sisyrinchium bermudiana, var. 1, Baker in Journ. Linn. Soc. Lond., xvi. p. 117.

BERMUDAS.—Endemic. Spread all over the islands—*Lane; Rein; Lefroy; Moseley.*

On first seeing the Bermudan specimens of *Sisyrinchium* collected by Sir J. H. Lefroy and Mr Moseley, we suspected that they were specifically different from the plant commonly known as *Sisyrinchium bermudiana*, and after comparing them with numerous specimens from other countries, we were convinced that the Bermudan specimens belonged to a distinct species. Referring to the literature of the subject, this view was found to be supported by all the early authors who had actually seen the plant. Plukenet originally published it, and distinguished it from the common form in eastern North America, giving a figure of each. Dillenius (Hortus Elthamensis), who had opportunities of seeing them alive, followed Plukenet in keeping them distinct. Linnæus, who, it may be assumed, did not see the Bermudan plant, as there is no specimen in his herbarium, united the two under the name *Sisyrinchium bermudiana*. Miller, who knew them in a living state, seems to have been the first (1771) to restore the two forms to specific rank; and he was followed by Lamarck, who also knew them alive, and who more fully described the differences between the two. In 1789 Curtis figured (in the Botanical Magazine) the Bermudan species, concerning which he wrote thus:—"On comparing the present plant with the *Bermudiana graminea flore minore cæruleo* of Dillenius, both of which I have growing, and now in pots before me, the difference appears so striking that I am induced with him and Miller to consider them as distinct species; especially as, on a close examination, there appear characters sufficient to justify me in the opinion, which characters are not altered by culture." Unfortunately, Curtis gave it the new specific name *iridioides*. He was led to do this in consequence of Linnæus having made the Bermudan form the var. β of his composite or aggregate species; but he afterwards, when figuring the other form, *Sisyrin-*

chium gramineum (Bot. Mag., t. 464), recognised the impropriety of the step, and acknowledged that it ought to bear the original name of *bermudiana*.

De Candolle (in Redouté's Liliacées) also insists upon the specific rank of the Bermudan plant, which, unlike the ordinary *Sisyrinchium gramineum*, *Sisyrinchium anceps*, and other forms with which it has been associated, is not hardy in England, but requires the protection of a greenhouse. Mr Baker, in his recent Systema Iridacearum, placed it as a variety of a species embracing the forms just named, but he now agrees that it is entitled to stand as a distinct species.

Its more striking characters are: its relatively large size, broad equitant leaves, short, broad, nearly equal bracts of the spathe, and its broad obovate mucronate perianth lobes.

Sisyrinchium bermudiana seems to be no longer in English gardens, and it is not the species naturalised or wild in Ireland, and naturalised in the Mauritius, Australia, and New Zealand. In Bishop Goodenough's Herbarium, now at Kew, there is a cultivated specimen of the Bermudan plant.

AMARYLLIDEÆ.

Narcissus jonquilla, Linn.

Narcissus jonquilla, Linn., Sp. Pl., ed. 1, p. 290; Bot. Mag., t. 15.

BERMUDAS.—Introduced. Escaped from gardens—*Lefroy*.

Europe.

Agave americana, Linn.

Agave americana, Linn., Sp. Pl., ed. 1, p. 323; Griseb., Fl. Brit. W. Ind., p. 582.

BERMUDAS.—Introduced. Used for hedges, and also occurring in a more or less wild state—*Jones*; *Rein*; *Lefroy*.

Mexico and the West Indies.

LILIACEÆ.

Aloe vera, Linn.

Aloe vera, Linn., Sp. Pl., ed. 1, p. 320; Baker in Journ. Linn. Soc., xviii. p. 176.
Aloe vulgaris, Lam., Encycl., i. p. 86; Griseb., Fl. Brit. W. Ind., p. 582.
Aloe barbadensis, Mill., Abridg. Dict., ed. 6, n. 2.

BERMUDAS.—Introduced. Rocky places—*Rein*; common—*Moseley*; *Lefroy*; not very common in a wild state, the flowers being only occasionally seen on the sunny slopes of the southern shore—*Jones*.

Mediterranean region. Introduced into the West Indies upwards of three centuries ago, and imported from the Barbadoes into English gardens in 1596, hence Miller's name. Mr Darrell gives the following particulars of its introduction into the Bermudas:—

"During the administration of Governors Browne and Hamilton (1785-1789), with the view of encouraging agriculture, the Colonial Legislature passed laws for granting bounties and advancing loans to landholders cultivating cotton and aloes. The latter occupation, as I have heard in my youth, was soon discontinued, by reason of several women having died who were employed in collecting the aloe juice from the leaves in the hot sun in summer time. Within my recollection there were patches remaining of these abandoned aloe farms, of half an acre or more, in various places near Devonshire Church and near the Salt Kettle."

Yucca aloifolia, Linn.

Yucca aloifolia, Linn., Sp. Pl., ed. 1, p. 319; Griseb., Fl. Brit. W. Ind., p. 582; Chapm., Fl. Southern U.S., p. 485.

BERMUDAS.—Introduced. *Rein.*

North Carolina to Florida, the West Indies, and Mexico.

Yucca gloriosa, Linn.

Yucca gloriosa, Linn., Sp. Pl., ed. 1, p. 319; Chapm., Fl. Southern U.S., p. 485.

BERMUDAS.—Introduced. Drifting sands of Port Royal—*Jones.*

North Carolina to Florida.

This species is not included in any other collection or list, and needs verification.

COMMELINACEÆ.

Commelina nudiflora, Linn.

Commelina nudiflora, Linn., Sp. Pl., ed. 1, p. 41; C. B. Clarke in DC. Monogr. Phanerog., iii. p. 144.
Commelina cayennensis, Rich. ex Griseb., Fl. Brit. W. Ind., p. 524.
Commelina agraria, Kth., Enum., iv. p. 38.
Commelina communis, Linn.? Chapm., Fl. Southern U.S., p. 497.

BERMUDAS.—Indigenous? The commonest spring flower—*Lefroy; Moseley; Rein; Reade.*

Generally diffused in warm countries.

The *Commelina communis* of Lane's list is doubtless the same species.

JUNCACEÆ.

Juncus tenuis, Willd.

Juncus tenuis, Willd., Sp. Pl., ii. p. 214; Griseb., Fl. Brit. W. Ind., p. 581; Chapm., Fl. Southern U.S., p. 493.

BERMUDAS.—Indigenous. Without locality—*Rein.*

Widely spread in North America, and extending, according to Grisebach, southward through the West Indies to Uruguay. It is also European.

Juncus marginatus, Rostk.

Juncus marginatus, Rostk., Monogr. Junc., p. 28, t. 2, fig. 2; Chapm., Fl. Southern U.S., p. 495.

BERMUDAS.—Indigenous. Marshes—*Moseley; Lefroy.*

New Jersey and Illinois southward to Florida and Texas.

PALMEÆ.

Sabal blackburniana, Glazebrook. (Plates VI., VII., VIII., IX.)

Sabal blackburniana, Glazebrook in Loudon's Gardeners' Magazine, 1829, v. p. 54, cum fig. xylogr.; Rœm. et Schult. Syst. Veg., vii. p. 1488.

Sabal palmetto, Rein in Bericht Senckenb. Naturf. Gesellsch., Frankf. am. M., 1873, p. 150, et auct. plur. non Rœm. et Schult.

Chamærops excelsa et *Chamærops palmetto*, Lefroy's list, Berm. Pl.

Chamærops glabra, Jones, Naturalist in Bermuda, p. 136.

Sabal umbraculifera, Mart., Hist. Palm., i. t. T., fig. 5, t. Y., figs. 5, 6, 7, t. Z., i., figs. 1–56, et iii., p. 245, t. 130? non Griseb., Fl. Brit. W. Ind. p. 514.[1]

Corypha umbraculifera, Jacq., Fragm. Bot., p. 12, non Linn.

BERMUDAS.—Indigenous and endemic? Common throughout the islands.

Until Sir Joseph Hooker took the palms in hand to elaborate them for the Genera Plantarum, it seems to have been generally supposed that *Sabal palmetto* inhabited the Bermudas as well as south-eastern North America: but among the imperfect material in British herbaria from the islands there was nothing belonging to that species; and what there was, though insufficient for identification, indicated a different species. The descriptions, too, in the earlier writers of the fruit of the Bermudan palm proved that the common one could not be *Sabal palmetto*, for the fruits were much larger. At first it seemed doubtful whether there was not more than one species indigenous in the Bermudas; but, thanks to the kindness of several gentlemen resident in the islands, we have been able to examine ample material, and are now in a position, we believe, to assert that there is only one. It is true that Mr Charles C. Keane sent sketches and measurements of what he thought were distinct species, and which we, at first, believed might be such, but finally decided were from trees of different ages. This view is confirmed by the fact that flowers and fruit of only one species have been received, and young and old plants of the same species under cultivation exhibit the diversities regarded as specific by Mr Keane. Nevertheless, some portions of Mr Keane's letters to Sir Joseph Hooker relating to these different states appear to be worth putting on record here.

"I wrote you some few days since enclosing a sketch of what seems to me to be two different specimens [species] of the palmetto. I have this day had packed and shall send you some leaves of the plants which I sketched, and also a couple of small leaves which I procured yesterday. I found them on the top of a high hill, and although there is not much apparent difference in the leaf, yet it is different in the manner of its growth, as it springs from the ground without any apparent stem. The people in the neighbourhood have never seen it bear flowers or fruit. It may be the dwarf palmetto[1] you mention. And now to answer your inquiries as well as I am able.

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[1] There is some doubt as to the date of the publication of Martius's name, though the description appeared about or after 1836. Moreover, there is no ground for retaining the name *umbraculifera*, because Jacquin gave it to a young plant believing it was the Asiatic *Corypha umbraculifera*. Grisebach specially mentions the palm cultivated as not being the same as the one he describes as *Sabal umbraculifera*.

"1. The height of the common palmetto varies from five to twenty feet in good ground; in the marshes it grows from thirty-five to forty feet. Its circumference varies with its locality. In the good soil it attains from forty to fifty inches; in the marshes sixteen to twenty inches.

"2. Breadth of leaf, six to eight feet.

"3. Length of leaf-stalk, three to seven feet and a half.

"4. It is wild in many parts of the islands and on the islets where there are no inhabitants, and would appear to have sprung up spontaneously.

"5. This is the only palmetto which bears a fruit. We know of but one sort, the small black berry, of which Dr Hinson will send you samples when they are ripe. There can be, I think, no doubt that it is indigenous. The fact that it was known to the earliest settlers, and its leaves used for covering houses, churches, &c., and that it had a commercial value long before the establishment of any communication with the West Indies, would, I think, be sufficient proof.

"I have already mentioned the small kind I found yesterday. It was growing in a poor soil on the top, or nearly so, of a high hill. I noticed a few more scattered about, quite stunted or dwarf."

Mr Oswald A. Reade sent the following reply to Sir Joseph Hooker's inquiries concerning the palm or palms indigenous in the islands:—

"The so-called dwarf palmetto (*Chamærops glabra* of General Lefroy's list) grows on dry hills and in very shallow soil. It is plentiful to the left of the entrance to Hamilton Harbour. I have examined it carefully, comparing measurements of leaves, segments, &c., but I could detect no specific difference between this and the common palmetto. In many individuals the stem is wanting; in others a small stem has apparently been the result of many years' growth, evidenced by the extreme roughness of trunk, hourglass contractions, and decay; while near cultivated ground it gradually merges imperceptibly into the larger palm. On the shallow, rocky soil the leaves assume a yellowish hue, and in none of the dwarf specimens could I find evidence of a spadix, even on those whose decayed but short trunks gave signs of considerable age. The hourglass contractions mentioned above are very curious; in one which I measured, the circumference at one foot from the ground was thirty inches; at two feet, eight inches—eight inches only—and at three feet, twenty-five inches. In other stunted individuals the stem appears conical, and sometimes as a bulbous expansion close to the ground."

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[1] Sir J. H. Lefroy and others distinguished a dwarf palmetto, differing from the ordinary one in having no trunk. This is no doubt the *Sabal blackburniana* in a young state. Many palms are years before they begin to form a trunk.

Mr W. H. Gosling, who forwarded flowers of the *Sabal blackburniana* to Kew, through Sir J. H. Lefroy, states, in the letter accompanying them, that there is certainly only one species of palm indigenous in the Bermudas.

Dr H. J. Hinson, who sent good specimens of flower, fruit, and leaves to Kew, was also of opinion that only one species grew wild in the islands; in confirmation of which he sent a leaf from a young plant raised from a seed borne by an old one, of which he sent the leaves, flowers, and fruit. This leaf from the young plant had a long slender petiole. The blade of the largest leaf sent from the old tree was eight feet across, and borne on a petiole eight feet long; and the inflorescence was five feet six inches long.

But the most remarkable fact in connection with the Bermuda palm remains to be explained: the wild specimens sent to Kew proved to belong to a species of palm of which there is evidence that it has been cultivated in England for at least 150 years, and of which, besides numerous small ones, there is a magnificent example in the palm-house at Kew, which flowers and bears fruit continuously. The origin of the cultivated palm was involved in obscurity. In 1737, a small plant of it was presented by Lord Petre to the grandfather of the Mr Blackburn after whom it was named in the periodical cited above, where there are figures and a description of it. The earliest record of its flowering in this country that we have found is 1818. Mr John Smith, ex-curator of the Royal Gardens, Kew, to whom we are indebted for so much of the history of the cultivated palm as was known, informs us that Martius saw the palm at Kew and named it *Sabal umbraculifera*, and Martius himself cites *Sabal blackburniana* as a synonym of *Sabal umbraculifera*. Whether it be really so or not, the former name, as the first under the accepted genus, is the one that should be retained. It is not, however, quite certain that it is the same. The only West Indian specimens of the Bermuda palm in the Kew Herbarium were sent by Mr Prestoe, of the Trinidad Botanic Garden, with a note to the effect that they were from cultivated trees said to be of Bermudan origin; and it is certain that the palm described by Grisebach under the name of *Sabal umbraculifera* in the Flora of the British West Indies is not the same. In order that the species may be better understood, four plates are here devoted to the illustration of the Bermuda palm. It should be mentioned that Mr Prestoe states in a subsequent letter (1883) to Sir Joseph Hooker that if he wrote Bermuda it must have been, he thinks, a slip of the pen—Bahamas being intended; adding that he had never sent any specimens of *Sabal umbraculifera*. But as the specimens were sent fifteen years before, Mr Prestoe may very well have forgotten the circumstance. They are the only specimens of the Bermuda palm in Kew Herbarium not from the Bermudas, if we except those cultivated at Kew. Mr Prestoe's memorandum with the specimen runs thus:—"Probably same as *Sabal umbraculifera* of Kew. Specimens collected in Mr Latham's garden; introduced from Bermuda, where it is said to be indigenous, and called the Great Palmetto."

The confusion regarding this palm is almost endless. Martius states that Jacquin the elder first introduced it into European gardens, whereas Jacquin himself says that the only plant possessed by the Schœnbrunn garden was obtained from Holland. Moreover, he was under the impression that it was the true *Corypha umbraculifera*, and gives Malabar as the native country. Martius quotes Hayti and Cuba as the home of the *Sabal umbraculifera*, where he says it was frequent, and the leaves were used by the natives for roofing; yet we have seen no specimens of it from either of those islands. The figures and description in Martius's book seem to have been made from the Bermuda palm.

The present dimensions of the large specimen in the palm-house at Kew are:—Height of naked trunk, twenty feet; height of head from the base of the lower leaves to the tips of the uppermost, twenty feet; spread of leaves, twenty-five feet; circumference of trunk one foot from the ground, four feet.

TYPHACEÆ.

Typha angustifolia, Linn., var. *domingensis*, Pers.

Typha angustifolia, Linn., Sp. Pl., ed. 1, p. 971, var. *domingensis*, Pers., Ench., ii. p. 532 (species); Griseb., Fl. Brit. W. Ind., p. 512.

BERMUDAS.—Indigenous. Banks of lagoons, common—*Rein; Moseley; Lefroy.*

The species is generally diffused in the temperate and tropical zones, and the variety, according to Grisebach, ranges from Texas to Brazil.

LEMNACEÆ.

Lemna minor, Linn.

Lemna minor, Linn., Sp. Pl., ed. 1, p. 970; Griseb., Fl. Brit. W. Ind., p. 512; Chapm., Fl. Southern U.S., p. 442; Hegelm., Lemn., p. 142, tt. 9, 10.

BERMUDAS.—Indigenous. *Rein.*

The most widely diffused species of this cosmopolitan genus.

Lemna trisulca, Linn.

Lemna trisulca, Linn., Sp. Pl., ed. 1, p. 970; Griseb., Fl. Brit. W. Ind., p. 512; Hegelm., Lemn., p. 134, tt. 5, 6.

BERMUDAS.—Indigenous. *Rein; Lefroy.*

Europe, Asia, North America, and Australia.

NAIADACEÆ.

Ruppia maritima, Linn.

Ruppia maritima, Linn., Sp. Pl., ed. 1, p. 127; Griseb., Fl. Brit. W. Ind., p. 506; Chapm., Fl. Southern U.S., p. 445.

BERMUDAS.—Indigenous. Lagoons—*Rein; Moseley.*

All round the temperate and sub-tropical zones of both hemispheres.

Zostera marina, Linn.

Zostera marina, Linn., Sp. Pl., ed. 1, p. 968; Chapm., Fl. Southern U.S., p. 445.

BERMUDAS.—Indigenous. *Rein.*

On most temperate and sub-tropical coasts.

CYPERACEÆ.

Cyperus odoratus, Vahl.

Cyperus odoratus, Vahl., Enum. Pl., ii. p. 356; Boeckl. in Linnæa, xxxvi. p. 407, non Linn. ex C. B. Clarke, MSS.

Cyperus odoratus, Linn. in Griseb., Fl. Brit. W. Ind., p. 565.

BERMUDAS.—Indigenous. Marshes—*Moseley; Lefroy.*

West Indies and South America.

It is uncertain what specific name this *Cyperus* should bear, and until all the species have been properly defined and their synonymy reduced, many of the names in use can only be regarded as provisional. The Bermudan species has been referred to *Cyperus phymatodes,* Mühl., to *Cyperus esculentus,* Linn., and to *Cyperus flexuosus,* Vahl.

X **Cyperus rotundus,** Linn.

Cyperus rotundus, Linn., Sp. Pl., ed. 1, p. 45; Griseb., Fl. Brit. W. Ind., p. 546. 564

BERMUDAS.—Indigenous. *Lefroy; Reade.*

A very widely-spread species in warm countries.

Sir J. H. Lefroy enumerates it in his list as having been identified by General Munro and Dr Asa Gray, but we have seen no Bermudan specimens.

Kyllinga monocephala, Rottb.

Kyllinga monocephala, Rottb., Ic. et Descr. Pl., p. 13, t. 4, fig. 4; Griseb., Fl. Brit. W. Ind., p. 568; Chapm., Fl. Southern U.S., p. 513.

BERMUDAS.—Indigenous. Pembroke Marsh—*Lefroy;* marshes—*Reade.*

Georgia and Mexico to Brazil, and in Tropical Asia, Africa, and Australia.

Cyperus brunneus Sw. in sand on beach. Elbow Bay. Paget
Jan. 1900

Heleocharis capitata, R. Br.

Heleocharis capitata, R. Br., Prodr. Fl. N. Holl., p. 225; Chapm., Fl. Southern U.S., p. 518 (*Eleocharis*).
Scirpus capitatus, Willd., Sp. Pl., i. p. 294; Griseb., Fl. Brit. W. Ind., p. 570.

Bermudas.—Indigenous. Marshes—*Moseley.*

Tropical and Sub-tropical America, Asia, Africa, and Australia.

Heleocharis melanocarpa, Torr.

Heleocharis melanocarpa, Torr. in Ann. Lyc. Nat. Hist. N. York, iii. p. 311; Chapm., Fl. Southern U.S., p. 516 (*Eleocharis*).

Bermudas.—Indigenous. *Rein.*

North America, on the coast from Massachusetts to Florida.

Heleocharis plantaginea, R. Br.

Heleocharis plantaginea, R. Br., Prodr. Fl. N. Holl., p. 224, *in nota* (*Eleocharis*).
Scirpus plantagineus, Linn. ex Griseb., Fl. Brit. W. Ind., p. 571.
Eleocharis equisetoides, Torr. in Ann. Lyc. Nat. Hist. N. York, iii. p. 296; Chapm., Fl. Southern U.S., p. 514.

Bermudas.—Indigenous. Marshes—*Lefroy.*

Florida and Louisiana to Brazil.

Dichromena leucocephala, Michx.

Dichromena leucocephala, Michx., Fl. Bor.-Am., i. p. 37; Chapm., Fl. Southern U.S., p. 530; Gray, Manual, ed. 5, p. 567.
Rhynchospora stellata, Griseb., Fl. Brit. W. Ind., p. 576.

Bermudas.—Indigenous. Marshes, &c.—*Moseley; Lefroy; Rein; Reade.*

New Jersey to Florida and the West Indies.

Dichromena pura, Nees.

Dichromena pura, Nees in Linnæa, ix. p. 291; Kunth, Enum., ii. p. 283 (*nomen tantum*).
Rhynchospora pura, Griseb., Fl. Brit. W. Ind., p. 577.

Bermudas.—Indigenous. *Rein.*

There are no Bermudan specimens of this species in the Kew Herbarium.

West Indies, Venezuela, and Guiana.

Scirpus lacustris, Linn.

Scirpus lacustris, Linn., Sp. Pl., ed. 1, p. 48; Chapm., Fl. Southern U.S., p. 520; Boeckl. in Linnæa, xxxvi. p. 712.
Scirpus validus, Vahl, Enum., ii. p. 268; Griseb., Fl. Brit. W. Ind., p. 571; Gray, Manual, ed. 5, p. 562.

Bermudas.—Indigenous. Salt marshes—*Moseley; Reade.*

Generally diffused in temperate and sub-tropical countries.

Rhynchospora florida, Dietr.

Rhynchospora florida, Dietr., Sp. Pl., ii. p. 71; Griseb., Fl. Brit. W. Ind., p. 575.

Bermudas.—Indigenous. Without locality or other memorandum—*Lefroy*.

West Indies, Venezuela, Guiana.

We have seen no specimen of this species from the Bermudas, though, according to Lefroy's list, his plant was determined at Kew. It is possible that the sheet was out for getting other specimens attached to it.

Rhynchospora stipitata, Chapm. (Plate X.)

Rhynchospora stipitata, Chapm., Fl. Southern U.S. Suppl., p. 660.

Bermudas.—Indigenous. Without special locality, though doubtless from the marshes —*Moseley*; *Lefroy*.

The only other locality known for this plant is in swamps near Mosquito Inlet, Florida.

Rhynchospora, sp. n.?

Rhynchospora, sp. n.?

Bermudas.—Indigenous. Marshes—*Moseley*.

The specimens are unlike anything we find in herbaria, but they are too young for description.

Rhynchospora, sp.

Rhynchospora, sp.

Bermudas.—Indigenous. Marshes—*Moseley*.

This also is a distinct species; but the flowers are all infested with smut and their structure destroyed.

Cladium mariscus, R. Br.

Cladium mariscus, R. Br., Prodr. Fl. N. Holl., p. 236; Bœckl. in Linnæa, xxxviii., p. 232.
Cladium occidentale, Schrad., Fl. Germ. 1, p. 76; Griseb., Fl. Brit. W. Ind., p. 573.
Schœnus cladium, Swartz, Fl. Ind. Occ., i. p. 87.

Bermudas.—Indigenous. Pembroke Marsh—*Lefroy*; very robust and common in the peat marshes—*Moseley*; without locality—*Rein*.

Widely dispersed in tropical and temperate regions, including North America, if *Cladium effusum*, Torrey, be the same species.

Carex bermudiana, Hemsl.

Carex bermudiana, Hemsl., n. sp.

Herba gracilis, glabra, ultra pedalis. *Culmus* 4–6 spicatus. *Folia* circiter 2 lineas lata, vix scabrida. *Bractea* infima deest, proxima superior filiformis, culmum paulo superans. *Spicæ* sessiles vel subsessiles, cylindricæ, 2 vel 3 inferiores omnino fœmineæ, intermedia basi fœminea apice mascula, 2 superiores masculæ. *Glumæ* ovatæ, breviter aristatæ, punctatæ, vix hispidulæ. *Perigynium* longiuscule acuminatum, bifidum, costatum, punctatum, undique fere glabrum. *Styli* 3. *Nux* breviter stipitata, subtrigona, lævis, glabra.—Gram. Cyp. Bermud. tenue spicatum. A Bermud. a D. Dickinson. Herb. Sloan., xxxii. p. 83.—Journ. Bot., 1883, p. 257, t. 239, fig. 2.

BERMUDAS.—Endemic.

Only known from the one specimen in the Sloane Collection in the British Natural History Museum:

It is closely allied to the endemic St Helena *Carex prœalta*, Boott, but it is much slenderer, and probably not more than half as tall. All the spikelets are sessile or subsessile, and the bracts are narrower; and the glumes and utricles are dotted as in *Carex æquabilis*, another species endemic in St Helena.

GRAMINEÆ.

Paspalum distichum, Linn.

Paspalum distichum, Linn., Amœn. Acad., v. p. 391; Griseb., Fl. Brit. W. Ind., p. 541; Chapm., Fl. Southern U.S., p. 570.
Paspalum littorale, R. Br., Prodr. N. Holl., p. 188; Trin., Spec. Gram., i. t. 112.

BERMUDAS.—Indigenous. In swamps—*Moseley; Munro; Grisebach; Reade.*

Very widely spread in tropical and sub-tropical regions, both in the New and the Old World.

Paspalum filiforme, Swartz.

Paspalum filiforme, Swartz, Fl. Ind. Occ., i. p. 136; Griseb., Fl. Brit. W. Ind., p. 541; Chapm., Fl. Southern U.S., p. 572.

BERMUDAS.—Indigenous? *Lefroy; Munro.* Locally known as "Wire-grass."

Southern States of North America; West Indies.

Paspalum setaceum, Michx.

Paspalum setaceum, Michx., Fl. Bor.-Am., i. p. 43; Gray, Manual, ed. 5, p. 645.
Paspalum debile et *Paspalum ciliatifolium*, Michx. l. c., p. 44; Chapm., Fl. Southern U.S., p. 571.

BERMUDAS.—Indigenous? Without locality—*Lefroy; Reade.*

A North American grass, ranging from Massachusetts to Florida.

Panicum brevifolium, Linn.

Panicum brevifolium, Linn., Sp. Pl., ed. 1, p. 59; Griseb., Fl. Brit. W. Ind., p. 552.

BERMUDAS.—Introduced? *Rein.*

West Indies.

Panicum capillare, Linn.

Panicum capillare, Linn., Sp. Pl., ed. 1, p. 58; Chapm., Fl. Southern U.S., p. 574; Gray, Manual, ed. 5, p. 647.

BERMUDAS.—Introduced. *Rein.*

Eastern North America, growing in sandy soil and on the coast, from New Jersey southward.

Panicum paspaloides, Pers.

Panicum paspaloides, Pers., Ench., i. p. 81; Griseb., Fl. Brit. W. Ind., p. 545; Kunth, Enum., i. 1, p. 77.

BERMUDAS.—Introduced. *Moseley.*

Widely distributed in warm countries.

Panicum horizontalis, Mey.

Panicum horizontalis, Mey., Esseq., p. 54; Kunth, Enum., i. 1, p. 81.
Digitaria setigera, Roth, Nov. Sp., p. 37; Griseb., Fl. Brit. W. Ind., p. 544.

BERMUDAS.—Introduced. *Rein.*

West Indies and other warm countries.

Panicum virgatum, Linn.

Panicum virgatum, Linn., Sp. Pl., p. 59; Chapm., Fl. Southern U.S., p. 573; Gray, Manual, ed. 5, p. 647.

BERMUDAS.—Introduced. *Rein.*

Eastern North America, growing in sandy soil, and commoner southward.

[*Panicum maximum*, Jacq. "Guinea grass" has been introduced.]

Setaria glauca, Beauv.

Setaria glauca, Beauv.; Griseb., Fl. Brit. W. Ind., p. 554; Chapm., Fl. Southern U.S., p. 578.

BERMUDAS.—Introduced. *Moseley.*

In nearly all temperate and tropical countries.

Oplismenus setarius, Rœm. et Schult.

Oplismenus setarius, Rœm. et Schult., Syst. Veg., ii. p. 481; Kunth, Enum., i. 1, p. 139.
Orthopogon setarius, Spreng.; Griseb., Fl. Brit. W. Ind., p. 545.

BERMUDAS.—Introduced. The caves—*Lefroy.*

West Indies, Tropical America, and tropics of the Old World.

Cenchrus tribuloides, Linn.

Cenchrus tribuloides, Linn., Sp. Pl., ed. 1, p. 1050; Griseb., Fl. Brit. W. Ind., p. 556; Chapm., Fl. Southern U.S., p. 579.

BERMUDAS.—Indigenous. Common on sand hills by the sea—*Lefroy;* the principal binding grass on the sand dunes—*Moseley.*

Widely distributed in America, Africa, and Asia.

The late General Munro seems to have regarded it as a form of the equally common *Cenchrus echinatus.*

Spartina juncea, Willd.

Spartina juncea, Willd., Enum. Pl. Hort. Berol., p. 81; Kunth, Enum., Pl. i. 1, p. 278; Chapm., Fl. Southern U.S., p. 556; Gray, Manual, ed. 5, p. 620.

BERMUDAS.—Indigenous. Rocks in the sea near the hospital—*Reade.*

Sandy and marshy places near the sea from Canada to Florida.

There are several closely allied forms or species on the eastern coast of North America, and some of them reappear in South America.

Stenotaphrum americanum, Schrank.

Stenotaphrum americanum, Schrank., Hort. Monac., t. 98; Griseb., Fl. Brit. W. Ind., p. 544; Chapm., Fl. Southern U.S., p. 579.

BERMUDAS.—Indigenous. Everywhere in dry, rocky places—*Rein; Lefroy; Moseley; Reade.*

Widely distributed both in America and the Old World, chiefly in maritime districts.

Polypogon monspeliensis, Desf.

Polypogon monspeliensis, Desf., Fl. Atl. i., p. 66; Kunth, Enum., i. p. 232; Gray, Manual, ed. 5, p. 612.

BERMUDAS.—Introduced. Common—*Rein; Lefroy.*

A European plant now very widely diffused, especially in maritime districts.

Phalaris canariensis, Linn.

Phalaris canariensis, Linn., Sp. Pl., p. 54; Kunth, Enum., i. 1, p. 31; Gray, Manual, ed. 5, p. 643.

BERMUDAS.—Introduced. Cavendish—*Lefroy.*

Mediterranean region, and naturalised in many other countries.

Sporobolus indicus, R. Br.

Sporobolus indicus, R. Br., Prodr. Fl. N. Holl., p. 170; Griseb., Fl. Brit. W. Ind., p. 533; Chapm., Fl. Southern U.S., p. 550.
Sporobolus elongatus, R. Br., l. c.
Vilfa tenacissima, Trin., Spec. Gram., t. 60.
Sporobolus tenacissimus, Beauv., Agrost., p. 26.

BERMUDAS.—Indigenous? Common—*Rein; Moseley; Jones; Reade.*

Generally diffused in tropical and sub-tropical countries.

Sporobolus virginicus, Kunth.

Sporobolus virginicus, Kunth, Enum., i. p. 210; Griseb., Fl. Brit. W. Ind., p. 533; Chapm., Fl. Southern U.S., p. 550.

BERMUDAS.—Indigenous. Binding grass on the sand dunes—*Moseley.*

Almost as widely distributed as *Sporobolus indicus.*

Sporobolus pungens, Kunth (errore *purgans*), of Rein's list, is probably one of the foregoing species. We have seen no American specimens of the true *Sporobolus pungens.*

Cynodon dactylon, Pers.

Cynodon dactylon, Pers., Ench., i. p. 85; Griseb., Fl. Brit. W. Ind., p. 540; Chapm., Fl. Southern U.S., p. 557; Kunth, Enum., i. 1, p. 259.

Agrostis bermudiana, Tussac ex Kunth, Enum., i. p. 259.

BERMUDAS.—Introduced. Common in cultivated ground—*Lefroy; Munro.*

In tropical and temperate countries all over the globe, but probably not indigenous in America.

This is the plant called "Bermuda Grass" in the United States and elsewhere.

Chloris petræa, Thunb.

Chloris petræa, Thunb., Fl. Cap., p. 109; Griseb., Fl. Brit. W. Ind., p. 539.

Eustachys petræa, Desv., Jour. Bot., 1813, i. p. 69; Chapm., Fl. Southern U.S., p. 557.

BERMUDAS.—Indigenous. Common in dry places—*Moseley; Jones; Reade.*

A coast plant, ranging from North Carolina to Uruguay, and also occurring in Southern Africa.

Leptochloa mucronata, Kunth.

Leptochloa mucronata, Kunth, Enum., i. 1, p. 270; Griseb., Fl. Brit. W. Ind., p. 537 (excl. synon.); Chapm., Fl. Southern U.S., p. 558.

Eleusine mucronata, Michx., Fl. Bor.-Am., i. p. 65.

BERMUDAS.—Introduced. *Rein.*

Virginia and Illinois to Florida and the West Indies; common in cultivated ground.

Kœleria phleoides, Pers.

Kœleria phleoides, Pers., Ench., i. p. 97; Kunth, Enum., i. p. 383.

BERMUDAS.—Introduced. *Moseley.*

Widely spread in the Old World; but not, as far as we know, naturalised in any part of America.

Sclerochloa rigida, Panz.

Sclerochloa rigida, Panz., in Regensb. Denkschr., ii. p. 180, ex Kunth, Enum., i. 1, p. 393.

Bermudas.—Introduced. *Rein; Moseley; Reade.*

Europe, Northern Africa, &c.

Poa annua, Linn.

Poa annua, Linn., Sp. Pl., ed. 1, p. 68; Chapm., Fl. Southern U.S., p. 562; Gray, Manual, ed. 5, p. 629.

Bermudas.—Introduced. *Moseley; Reade.*

A native of the Old World, now naturalised in most temperate and sub-tropical countries.

PHANEROGAMÆ.—GYMNOSPERMÆ.

CONIFERÆ.

Juniperus bermudiana, Linn. (Plate V.)

Juniperus bermudiana, Linn., Sp. Pl., ed. 1, p. 1039; Parlat. in DC. Prodr., xvi. 2, p. 490; Hemsl. in Gard. Chron., n.s., xix. p. 656, figg. 105 et 106, et in Journ. Bot. 1883, pp. 259–261; Hook, Lond. Journ. Bot. 1843, ii. p. 141, t. 1.

Juniperus barbadensis, Linn., Sp. Pl., ed. 1, p. 1039; Griseb., Fl. Brit. W. Ind., p. 503 (*saltem pro parte*).

Juniperus barbadensis Cupressi folio, ramulis quadratis, Pluk., Almag., p. 201, et. Phytogr., t. 197, fig. 4 (*bona*).

Juniperus bermudiana, Hermann in Hort. Acad. Lugd.-Bat. Catal. 1687, pp. 345–347 (*forma juvenis foliis acicularibus sed galbuli errone valde majores descripti ac picti*).

Biota meldensis, Gord., Pinetum, p. 37, fide Parlatorei.

Bermudas.—Indigenous. Common throughout the islands, and the only indigenous exogenous tree. The "Cedar" of the islanders.

Also in the West Indies.

As with the indigenous palm and *Sisyrinchium*, so with this; great confusion has prevailed concerning its specific identity, it having been alternately referred to *Juniperus virginiana* and accepted as a distinct species; while other authors, Grisebach, for example, have followed Linnæus and endeavoured to distinguish *Juniperus bermudiana* from *Juniperus barbadensis*. Even now we are unable to give any definite information on its distribution in the West Indies, and we are not absolutely sure that the same form occurs there. Until recently we were of the opinion that *Juniperus bermudiana* was endemic in the Bermudas; but after examining specimens in the Sloane Herbarium in the British Museum, purporting to have come from Jamaica and the Barbados, we have no doubt that they are the same; and the authenticity of their origin is in some measure confirmed by a packet of berries lately received from Jamaica, for they seem to belong to *Juniperus* *bermudiana* rather than *Juniperus virginiana*.[1] One of the specimens in the Sloane Herbarium is evidently the type of Plukenet's figure, cited above. Sloane's own Jamaica collections contain specimens of both *Juniperus virginiana* and *Juniperus bermudiana*, the latter being referred to thus—"*An præcedentis varietas.*" On the other hand, there is, with the exception noted below, not a single specimen of *Juniperus bermudiana* in any of the modern collections of West Indian plants either at Kew or the British Museum, the only *Juniperus* represented being *Juniperus virginiana*. Ponthieu, however, collected a specimen of *Juniperus bermudiana* in Antigua, but there is this memorandum on his label—"Brought here from Bermuda, and not common."

Hermann (*op. sup. cit.*) represents a young seedling plant, with the characteristic long spreading leaves, bedecked with berries as large as oranges, if he observed proportion in his drawing! It is quite evident that the artist added the fruit. Hermann's plant was obtained from England; and the true Bermudan cedar was cultivated in England in 1684, as we learn from a letter written by Sir Hans Sloane to Mr Ray in November of that year. Plukenet's figure of the adult state, as already mentioned, seems to have been made from a dried specimen still preserved in the Sloane Herbarium.

Of the so-called Barbados cedar we have only the vaguest information. In his History of the Barbados, Schomburgh makes no mention of a juniper beyond the name *Juniperus barbadensis* in his list of the plants of the island; and Maycock (Flora Barbadensis, p. 395) states that *Juniperus barbadensis* was by no means common at that date (1830) in the island, from which it derived its name.

The Bermudan cedar is easily distinguished from the red cedar (*Juniperus virginiana*), though the latter is very variable in different localities of its very wide area of distribution. In the adult or fertile state—that is, the state with small imbricating leaves, which alone bear flowers—it has thicker ultimate branchlets, owing to the greater thickness of the rather obtuse, not acute, leaves, which, instead of having a distinct gland on the back, like *Juniperus virginiana*, are merely furrowed. The berries are larger, and contain three or more seeds, smaller than those of *Juniperus virginiana*, which are solitary or only two in a berry, so far as we have been able to compare them.

Dr W. G. Farlow, of Cambridge, Massachusetts, states in a letter that he collected good specimens of the juniper during a sojourn in the Bermudas, and they were examined by Dr Engelmann, who pronounced *Juniperus bermudiana* to be a good species, and distinct from *Juniperus barbadensis*; so there would be a third species in the West Indies.

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[1] Excellent specimens of *Juniperus bermudiana* from Jamaica have reached Kew at the last moment. Mr D. Morris sends them with the information that this is the only species indigenous in the Blue Mountains.

CRYPTOGAMÆ.—VASCULARES.

LYCOPODIACEÆ.

Psilotum triquetrum, Swartz.

Psilotum triquetrum, Swartz, Synop. Fil., p. 187; Spring, Monogr. Lycop., ii. p. 269; Hook., Fil. Exot., t. 63, et Gen. Fil., t. 87; Griseb., Fl. Brit. W. Ind., p. 648; Chapm., Fl. Southern U.S., p. 601.

Bermudas.—Indigenous. Sea beach, Walsingham—*Lefroy;* Ireland Island—*Reade.*

Nearly all tropical and some sub-tropical regions, but much more abundant in the Old World than in America.

EQUISETACEÆ.

Equisetum, sp.

Equisetum, sp.

Bermudas.—Indigenous. Pembroke Marsh—*Lefroy.*

We have seen no specimens of this plant, which was determined by Mr Sargent of Harvard. It is likely to be the *Equisetum bogotense,* Kunth.

FILICES.

POLYPODIEÆ.

Adiantum bellum, Moore. (Plate XI.)

Adiantum bellum, Moore in Gard. Chron., n.s., xi. p. 172.
Adiantum capillus-veneris of Jones and Rein's list, but not of Linnæus.

Bermudas.—Indigenous. Abundant all over the islands—*Rein; Jones; Moseley; Lefroy.*

If this is to be regarded as a distinct species, it is endemic in the Bermudas; but Mr J. G. Baker named the specimens collected by Mr Moseley *Adiantum cuneatum,* Langs. and Fisch., which species is a native of Brazil and Uruguay, and we think the Bermudan plant is not specifically different. Indeed, the specimens of *Adiantum cuneatum* from the southern part of its area are scarcely distinguishable from the Bermudan.

Moore's description is appended:—

"Fronds tufted, 3 to 6 inches high, bipinnate, ovato-lanceolate; pinnæ of 3 to 6 pinnules, ½ to 1½ inch long, stalked; pinnules cuneate or irregularly transverse-oblong, the somewhat larger terminal ones cuneate and divided into two or three shallow lobes, the margin erose, all shortly pedicellate, the pedicels hair-like, not articulated with the pinnule, but showing at their apex a short y-shaped ebonous furcation, which passes into the flabellate venation; sori various, two or three on the smaller pinnules, short and roundish or longer and sublunate, situate at the apex of the shallow lobes; indusium entire. Caudex thin, shortly creeping with criniform scales; stipes and rhachises ebonous, smooth."

The wild specimens in the Kew Herbarium are at least double the size described by

Moore, who, it may be added, compares his species with *Adiantum fragile*, Swartz, a West Indian species remarkable for the very deciduous nature of its pinnules.

Pteris aquilina, Linn., var. *caudata*.

Pteris aquilina, Linn. Sp. Pl., ed. 1, p. 1075, var. *caudata*, Linn., *loc. cit.* (species); Griseb., Fl. Brit. W. Ind., p. 670; Chapm., Fl. Southern U.S., p. 589.

BERMUDAS.—Indigenous. Common in the marshes of Pembroke, Hamilton, &c.—*Hunter; Rein; Jones; Moseley; Lefroy.*

The species is generally distributed in the tropics and in both north and south temperate zones; and some specimens of the American variety *caudata* are so like the New Zealand variety *esculenta* as to be indistinguishable.

Pteris heterophylla, Linn.

Pteris heterophylla, Linn., Sp. Pl., ed. 2, p. 1534; Griseb., Fl. Brit. W. Ind., p. 668; Hook. and Baker, Synop. Fil., ed. 2, p. 160.

BERMUDAS.—Indigenous. The caves—*Farlow; Moseley; Lefroy.*

A very remarkable and distinct fern, only known from the West Indies, where, however, it is generally spread. The locality Rio, Brazil, Lady Calcott, recorded in Hooker's Species Filicum, ii. p. 166, is almost certainly an error, arising from a mixture of specimens; for the neighbourhood of Rio has been very thoroughly explored, and no other specimen exists at Kew from that country.

Woodwardia virginica, Sm.

Woodwardia virginica, Sm., Act. Taur., v. p. 412; Hook. and Baker, Synop. Fil., ed. 2, p. 188; Chapm., Fl. Southern U.S., p. 591.

BERMUDAS.—Indigenous. Pembroke Marsh—*Lefroy;* without locality—*Rein.*

Eastern North America, from Canada to Florida.

This appears to be quite rare in the Bermudas.

Asplenium dentatum, Linn.

Asplenium dentatum, Linn., Sp. Pl., ed. 1, p. 1080; Hook. and Baker, Synop. Fil., p. 196; Griseb., Fl. Brit. W. Ind., p. 683; Chapm., Fl. Southern U.S., p. 592.

BERMUDAS.—Indigenous. The dell on the path to Paynter's Vale from H. Sound —*Lefroy;* caves at Paynter's Vale—*Moseley;* without locality—*Farlow.*

Florida, West Indies, Mexico, and Guatemala.

Asplenium (Diplazium) laffanianum, Baker. (Plate XII.)

Asplenium (*Diplazium*) *laffanianum*, Baker in Gard. Chron., n.s., xvii. p. 673.

Asplenium caudice erecto, paleis lanceolatis sordide brunneis, stipitibus semipedalibus supra basin nudis; frondibus oblongo-deltoideis bipinnatis glabris viridibus pedalibus, pinnis lanceolatis imbricatis subsessilibus infimis maximis, pinnulis oblongis serratis obtusis basi posteriori cuneato-truncatis superioribus adnatis infimis sessilibus obscure pinnatifidis, pinnularum venis superioribus furcatis inferioribus pinnatis, soris medianis infimis geminis, involucro glabro persistente.

Bermudas.—Endemic. Without special localities—*A. Allen; Lefroy; Laffan.*

This species is allied to the well-known West Indian *Asplenium franconis* and *Asplenium crenulatum.* Major-General Sir Robert Laffan, whose name has been associated with this species, succeeded Sir J. H. Lefroy as governor of the islands; and during his governorship, he introduced living plants of it into England.

Asplenium rhizophyllum, Kze.

Asplenium rhizophyllum, Kze. in Linnæa, ix. p. 71, not of Linnæus; Hook. and Baker, Synop. Fil., ed. 2, p. 220.

Asplenium myriophyllum, Spreng. ex Griseb., Fl. Brit. W. Ind., p. 684; Chapm., Fl. Southern U.S., p. 593.

Bermudas.—Indigenous. Caves at Paynter's Vale—*Moseley;* in clefts and holes of limestone—*A. Allen;* the caves—*Lefroy.*

Florida, West Indies, Tropical America, and Polynesia.

The fern to which Mr Baker has given this name is midway between typical *Asplenium rhizophyllum* and *Asplenium cicutarium,* and almost the same as *Asplenium monteverdense,* Hook., Second Cent. Ferns, t. 41. *Asplenium cicutarium* proper has a wide range in Tropical America and Africa.

Asplenium trichomanes, Linn.

Asplenium trichomanes, Linn., Sp. Pl., ed. 1, p. 1080; Hook. and Baker, Synop. Fil., ed. 2, p. 196; Griseb., Fl. Brit. W. Ind., p. 683; Chapm., Fl. Southern U.S., p. 592.

Asplenium anceps, Soland in Hook. and Grev. Ic. Fil., t. 195.

Bermudas.—Indigenous. Walsingham—*Farlow;* woods in Warwick Parish—*Hunter;* the caves—*Moseley; Lefroy.*

Generally diffused in the north and south temperate regions. The Bermudan variety is that described as *Asplenium anceps.*

Aspidium coriaceum, Swartz.

Aspidium coriaceum, Swartz, Synop. Fil., p. 57; Griseb., Fl. Brit. W. Ind., p. 690.

Aspidium capense, Willd., Sp. Pl., v. p. 267; Hook. and Baker, Synop. Fil., ed. 2, p. 254.

Bermudas.—Indigenous. Marshes—*Moseley;* confined to Devonshire Marsh—*Lefroy;* Devonshire Marsh—*Farlow.*

West Indies to Patagonia, and in Polynesia, New Zealand, Australia, South Africa, and the Mascarene Islands.

Aspidium aculeatum, Swartz.

Aspidium aculeatum, Swartz, Synop. Fil., p. 53; Griseb., Fl. Brit. W. Ind., p. 689.

Bermudas.—Indigenous. The caves—*Lefroy;* without locality—*Rein.*

In temperate and sub-tropical regions nearly all over the world.

Nephrodium amplum, Baker.

Nephrodium amplum, Baker in Hook. and Baker, Synop. Fil., ed. 2, p. 285.
Aspidium amplum, Metten. ex Griseb., Fl. Brit. W. Ind., p. 691.

Bermudas.—Indigenous. Caves at Paynter's Vale—*Moseley; Farlow; Lefroy.*

West Indies to Ecuador, and probably also in Pitcairn Island.

Nephrodium bermudianum, Baker, n. sp. (Plate XIII.)

Nephrodium bermudianum, Baker, n. sp.

Rhizomate breviter reptante, stipite semipedali supra basin haud paleaceo, fronde oblongo-lanceolato subpedali modice firmo parce piloso, rhachi stramineo dense piloso haud paleaceo, pinnis sessilibus vel subsessilibus lanceolatis multijugis patulis ad medium pinnatifidis inferioribus basi posteriore reductis, segmentis secundariis oblongis integris contiguis, venis regulariter pinnatis venulis 5–7 jugis simplicibus raro furcatis, soris parvis medialibus, involucro minute reniformi.

A near ally of the West Indian *Nephrodium asplenioides*, Baker. Central pinnæ 2 to 2½ in. long, ½ to ¾ in. broad, the lowest of the frond sometimes but not always dwarfed; final segments, $\frac{1}{12}$ to ⅛ in. broad; veins always simple, except in the anterior segment of the lower pinnæ, which is often larger than the rest.

Bermudas.—Endemic. Near Paynter's Vale—*Farlow;* without locality—*Lefroy.*

The plant named *Polypodium* (*Goniopteris*) *tetragonum*, Swartz? (Trimen., Journ. Bot. 1877, p. 367), collected by the Rev. R. Hunter at Walsingham, is most likely, Mr Baker informs us, this species, which appears to be endemic in the Bermudas.

Nephrodium patens, Desv.

Nephrodium patens, Desv. in Mém. Soc. Linn. Par., ii. p. 258; Hook. and Baker, Synop. Fil., ed. 2, p. 262.
Aspidium patens, Swartz, Synop. Fil., p. 49; Griseb., Fl. Brit. W. Ind., p. 692; Chapm., Fl. Southern U.S., p. 594.

Bermudas.—Indigenous. Without locality—*Moseley; Rein;* Warwick—*Hunter.*

Florida and Texas to Rio and Chili; Polynesia; Japan; Tropical Africa; St Helena.

Nephrodium molle, Desv.

Nephrodium molle, Desv. in Mém. Soc. Linn. Par., ii. p. 258; Hook. and Baker, Synop. Fil., ed. 2, p. 293.
Aspidium molle, Swartz, Synop. Fil., p. 49; Griseb., Fl. Brit. W. Ind., p. 693.

Bermudas.—Indigenous. Without locality—*Rein; Reade.*

All tropical countries, and extending in the north temperate regions to the Azores and Hong-Kong, and in the south to the Cape and New Zealand.

There is, however, no specimen from the Bermudas in the Kew Herbarium.

Nephrodium thelypteris, Desv.

Nephrodium thelypteris, Desv. in Mém. Soc. Linn. Par., ii. p. 257; Hook. and Baker, Synop. Fil., ed. 2, p. 271.

Aspidium thelypteris, Swartz, Synop. Fil., p. 50; Chapm., Fl. Southern U.S., p. 594.

BERMUDAS.—Indigenous. Pembroke Marsh—*Lefroy;* without locality—*Rein.*

Generally diffused in the temperate zones of both hemispheres.

Nephrodium villosum, Presl.

Nephrodium villosum, Presl., Reliq. Hænk., i. p. 38; Hook. and Baker, Synop. Fil., ed. 2, p. 286.

Aspidium villosum, Swartz, Synop. Fil., p. 56; Griseb., Fl. Brit. W. Ind., p. 690.

BERMUDAS.—Indigenous. Without locality—*Rein.*

West Indies, southward to Peru and Chili.

There are no Bermudan specimens at Kew of this species, which is included on the authority of Rein.

Nephrolepis exaltata, Schott.

Nephrolepis exaltata, Schott, Gen. Fil., with a figure; Hook. and Baker, Synop. Fil., ed. 2, p. 301; Chapm., Fl. Southern U.S., p. 596.

Aspidium exaltatum, Swartz, Synop. Fil., p. 45; Griseb., Fl. Brit. W. Ind., p. 688.

BERMUDAS.—Indigenous. Devonshire Marsh—*Lefroy;* without locality—*Moseley; Rein.*

Generally diffused in tropical countries.

Polypodium pectinatum, Linn.

Polypodium pectinatum, Linn., Sp. Pl., ed. 1, p. 1085; Griseb., Fl. Brit. W. Ind., p. 699.

BERMUDAS.—Indigenous. Walsingham—*Lefroy; Hunter;* without locality—*Rein.*

Florida and Mexico to Peru and Brazil.

Polypodium elasticum, Rich.

Polypodium elasticum, Rich. ex Hook. and Baker, Synop. Fil., ed. 2, p. 332.

Polypodium taxifolium, Linn., Sp. Pl., ed. 1, p. 1086; Griseb., Fl. Brit. W. Ind., p. 699, in part.

BERMUDAS.—Indigenous. Caves at Paynter's Vale—*Moseley;* without locality—*Lefroy.*

Florida, West Indies, and Mexico to Peru and Brazil.

Acrostichum aureum, Linn.

Acrostichum aureum, Linn., Sp. Pl., p. 1069; Hook. and Baker, Synop. Fil., ed. 2, p. 423; Chapm., Fl. Southern U.S., p. 588.
Chrysodium vulgare, Fée ex Griseb., Fl. Brit. W. Ind., p. 675.

BERMUDAS.—Indigenous. Marshes, growing in dense thickets to a height of four or five feet—*Moseley; Lefroy; Rein.*

A salt-marsh fern, widely distributed in tropical and sub-tropical countries.

OSMUNDACEÆ.

Osmunda cinnamomea, Linn.

Osmunda cinnamomea, Linn., Sp. Pl., ed. 1, p. 1066; Chapm., Fl. Southern U.S., p. 598.

BERMUDAS.—Indigenous. Marshes in Warwick, Pembroke, &c.—*Hunter; Rein; Moseley; Lefroy.*

Canada to Brazil, and in North-Eastern Asia.

Osmunda regalis, Linn.

Osmunda regalis, Linn., Sp. Pl., ed. 1, p. 1065; Chapm., Fl. Southern U.S., p. 598.

BERMUDAS.—Indigenous. Abundant in most of the marshes, where with *Pteris aquilina* it forms the main feature of the herbaceous vegetation—*Moseley;* Pembroke Marsh—*Lefroy;* without locality—*Rein;* marsh in Warwick—*Hunter.*

In nearly all temperate and tropical countries, except Australia and New Zealand

CRYPTOGAMÆ.—CELLULARES.

MUSCI.[1]

Tortula (Trichostomum) bermudana, Mitt.

Tortula (*Trichostomum*) *bermudana*, Mitt., Journ. Linn. Soc. Lond., xv. 60.

Dioica. Caulis humilis infra perichætium innovans. Folia a basi erecta, rotundo-quadrata, cauli appressa, cellulis parvis oblongis pellucidis areolata, exinde erecto-patentia, stricta, sensim angustata, canaliculata, apice obtusiusculo, nervo in mucronulum excurrente, margine integerrimo supra medium incurvo inflexove cellulis minutis rotundis obscuris, perichætialia pauca, basi ovalia, cæteroquin caulinis similia. Theca in pedunculo flavo ovali-oblonga, erecta, operculo triente breviore. Calyptra usque ad medium thecæ descendens. Peristomium e dentibus geminatis filiformibus rubris.

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[1] By William Mitten, A.L.S., and limited to the species collected by the Challenger Expedition. The authorities for some of the names have been altered in conformity with the rule observed for the other groups of plants.—W. B. H.

Bermudas.—In extensive patches on calcareous sand.

Caulis lineas quatuor altus, gracilis. Folia flavo-viridia, ætate pallide fusca, sicca incurvata, laxe contorta. Pedunculus subsemiuncialis, gracilis. Theca ætate fusca, ore intensiore colorato.

A small species, which in general appearance is very similar to *Weisia controversa*, but the capsules are not striate when dry and old. The peristome agrees with that found in those species of *Trichostomum* which are closely allied to *Trichostomum crispulum;* and although in the specimens examined the teeth are not contorted, the arrangement of the cells of the operculum is oblique, as is usual in the *Tortulæ* with distinctly twisted peristomes.

Tortula (Hymenostylium) verticillata, Mitt.

Bryum verticillatum, Linn., Sp. Pl., ed. 2, p. 1585; C. Müller, Synop. Musc. Frond., i. p. 656 (sub *Weisia*).

Eucladium verticillatum, Bruch. et Schimp., Bryol. Europ. p. 3, t. i.

Bermudas.—In small quantity without fruit.

This species has been so variously arranged in Bryological works that it will be necessary to assign the reasons for its position as above. It has been considered a *Weisia, Grimmia, Coscinodon;* and at length, in the Bryologia Europea, it forms the genus *Eucladium*, which, although pointed out by Wilson to be a name pre-occupied, has been retained in the second edition of Schimper's Synopsis. If the characters of this genus be considered, it will be found that they rest chiefly on the presence of the peristome. In the first edition of the Synopsis, *Eucladium* is placed in the *Pottiaceæ*, and the author says it is "*genus paradoxum, sedis incertæ;*" in the second edition it has been removed to the family Weisiaceæ, and is placed next following *Gymnostomum*, which consists of three species, only one of which, *Gymnostomim curvirostrum*, is found in that genus as first enumerated in Hedwig's Species Muscorum, where it stands as *Gymnostomum recurvirostrum*. With the exception of *Gymnostomum tenue*, all the other species then recorded have since passed to genera founded on characters not dependent on the peristome, such as *Schistostega* and *Physiomitrium*.

In the Bryologia Universa, Bridel published in 1826 two genera which succeeding authors have passed over almost unnoticed. Of these the first is *Hymenostylium* (l. c. ii. 82) to contain the *Gymnostomum xanthocarpum*, Hooker (Musci Exotici, t. 153), a species so intimately allied to the European *Gymnostomum rupestre* and *Gymnostomum curvirostrum*, as mentioned in the original description, that they cannot be regarded otherwise than as congeneric. This was not then evident to Bridel, for in the supplement to vol. i. 761, he describes *Entosthymenium*, the single species being *Entosthymenium tristichum*, which he says was sent from Dax by Grateloup to De Candolle's Herbarium. No specimen is said by C. Müller (Synopsis, ii. 635) to be now in Bridel's Herbarium; but if the description be compared with specimens of *Gymnostomum curvirostrum*, it will be found to agree in all particulars, especially in his statement that the foliage is subtristichous, a specific character elsewhere entirely overlooked.

Two genera were thus described by Bridel without his claiming the European species, *Gymnostomum curvirostrum*, which must belong to the first, and which is really identical with the last; so that of the species originally placed in *Gymnostomum* by Hedwig there remained to represent that group only *Gymnostomum tenue*.

It is a curious coincidence that Bridel (Bry. Univ., i. 376) finishes his account of his *Coscinodon verticillatus* with "*Cave ne cum Gymnostomo curvirostro habitu colore et vita in calcareis satis simili commisceas*," and the position assigned to these mosses in the last edition of Schimper's Synopsis, showing that both had arrived at the same conclusions as to their affinity, but also without seeing that they stood in the same relation to each other as that observable among the species of *Zygodon* and *Orthotrichum*, and thus that *Eucladium* might be the peristomate state of *Gymnostomum* = *Hymenostylium*.

Tortula melanocarpa, Mitt.

Tortula melanocarpa, Mitt. in Journ. Linn. Soc. Lond., xv. 60.
Gymnostomum barbula, Schwægrichen, ii. 1. 77, t. 175.
Hyophila barbula, Hampe in Bot. Zeit., 1846, 267; C. Müller, Synop. Musc. Frond., i. 558; Mitt., Musc. Austr. Amer., in Journ. Linn. Soc. Lond., xii. p. 136 (sub *Weisia*).

BERMUDAS.—On calcareous matter.

This species was wrongly described in the Journ. Linn. Soc. Lond., xv. 60, as having a peristome, the capsule from which the description of that organ was taken being afterwards found to belong to *Tortula bermudana*, with which it had been intermixed. The figure given by Schwægrichen well represents the moss, which was originally gathered in Cuba, from whence Wright distributed his specimens. It is not recorded from any other locality. On dissolving out the calcareous white substance in which the Bermudan specimens were imbedded, the stems are found to have short branches, some of which bear a male flower. The species is therefore monœcious; and the male flower, which, in all acrocarpous mosses, is the first produced, becomes lateral from growth of the innovation bearing the female and at length the fruit, leaving the male, which had been terminal, as if it were a secondary growth on a proper branch.

Hyophila, Bridel (Bry. Univ., i. 760), was founded on a species now referred to *Entosthodon* = *Entosthodon rottleri*, the *Gymnostomum rottleri* of Schwægrichen, and the *Gymnostomum javanicum*, Nees et Blume. This last, with some other similar or allied mosses, stands in C. Müller's Synopsis as Section III., *Hyophila*, of his genus *Pottia*.

Besides *Hyophila javanica*, it includes *Hyophila spathulata*, *Hyophila cylindrica*, and *Hyophila tortula;* and, if the nearest allied mosses be sought for, they must be found in such *Tortulæ* as the *Barbula javanica*, Dozy et Molk., Musc. Archip. Ind., t. xviii., which, if it had no peristome, would have exactly agreed with the species named, so that *Hyophila* as a genus is, in fact, but an incomplete *Tortula;* yet it may serve perhaps as a name for a number of species which do not exactly correspond to any described section of that numerous family.

From the *Hyophilæ* above mentioned, *Hyophila barbula* = *Tortula melanocarpa*, differs in the areolation of its leaves and its very near affinity to *Trichostomum brevicaule*, Hampe, found on the cement of buildings in Java, and also to Schimper's *Gyroweisia tenuis*, formerly *Gymnostomum tenue*, and his *Gyroweisia reflexa*, the *Weisia reflexa*, Brid., t. 355, placed in the second edition of his Synopsis immediately before his genus *Gymnostomum*. All these species present but little difference from *Hymenostylium* as outlined here, and are mosses to which lime is so essential that they are only found upon it or in its close proximity.

The rearrangement of the family of Tortuloid mosses is as yet a matter of great difficulty: it is easy to see that they fall into natural groups very difficult to define in words, and that many of the older genera are but of negative value. Thus *Pottia* runs into *Anacalypta*, and this into *Desmatodòn*, and on to *Syntrichia;* and *Systegium*, through *Hymenostomum*, is connected with *Weisia*, and through some *Trichostoma* with such complete *Tortulæ* as *Tortula tortuosa*. It is these considerations that have led to the continuance here of the name *Tortula melanocarpa* instead of that of *Tortula barbula*, for by many authors *Tortula* and *Barbula* are considered synonyms of the same idea; and much more may yet be known respecting the limits of *Hymenostylium*, which, if capable of definition, might well include this species as *Hymenostylium barbula*.

Bryum dichotomum, Hedw.

Bryum dichotomum, Hedw., Sp. Musc., p. 183, t. 42; C. Müller, Synop. Musc. Frond., i. p. 304.
Bryum atropurpureum, Web. et Mohr.; Bryol. Europ., t. 37.

BERMUDAS.—With *Tortula bermudana*, barren.

This species is probably cosmopolitan.

Rhacopilum tomentosum, Brid.

Rhacopilum tomentosum, Brid., Musc. Univ., ii. p. 719.
Hypnum tomentosum, Hedw., Musc. Frond., iv. p. 48, t. 19.
Hypopterygium tomentosum, C. Müller, Synop. Musc. Frond., ii. p. 12.

BERMUDAS.—In small quantity, but fertile.

Common probably in all the West Indian Islands, and extending to Southern Brazil.

Isopterygium tenerum, Mitt.

Isopterygium tenerum, Mitt. in Journ. Linn. Soc. Lond., xii. p. 499.
Hypnum tenerum, Swartz, Fl. Ind. Occ., iii. p. 1817.

Bermudas.—Well-fruited specimens.

The species is probably spread throughout all the West Indian Islands and the more northern parts of South America, but seems replaced in Brazil by some other similar forms. In Trimen's Journal of Botany, ix. 295, Mr Spruce has some remarks on this group, which he considers identical with *Plagiothecium*. He there quotes the characters by which *Leucomium* was described for those of *Isopterygium*, so that, notwithstanding he had himself gathered all these mosses, and had the very best means of understanding them, his conclusions are derived from a fallacy, and have no pertinence, *Leucomium* being composed of species very different; and it is noteworthy that Schimper did not include the European *Isopterygium depressum* in his enumeration of the species of *Plagiothecium*, but put it in his *Rhynchostegium*.

Sphagnum cymbifolium, Ehrh.

Sphagnum cymbifolium, Ehrh. in Hannov. Mag., 1780, p. 235, ex C. Müller, Synop. Musc. Frond., i. p. 91.

Bermudas.—Barren.

Sphagnum cuspidatum, Ehrh., var. *plumosum*.

Sphagnum cuspidatum, Ehrh., Crypt., n. 251; C. Müller, Synop. Musc. Frond., i. p. 96, var. *plumosum*.

Bermudas.—Without fruit.

HEPATICÆ.

Cephalozia connivens, Lindb.

Cephalozia connivens, Lindb. in Journ. Linn. Soc. Lond., xiii. p. 190.
Jungermannia connivens, Dicks., Crypt. fasc., iv. p. 19, t. 11, fig. 15; Hook., Brit. Jung., n. 15.
Blepharostoma connivens, Dumortier, Rev. Jung., p. 18, et Hepaticæ Europæ, p. 96.

Bermudas.—A few fragments, and on *Riccardia*.

Pleuroschisma prostrata, Mitt.

Sphagnoecetis prostrata, G. L. et N., Synop. Hepat., p. 149.
Jungermannia prostrata, Sw., Prodr. Fl. Ind. Occ., p. 143.

Bermudas.—In spreading tufts.

This seems to differ from the common round-leaved states of *Pleuroschisma sphagni* in its rather smaller size and more oval oblong leaves. It is found also in Europe.

Radula pallens, Nees.

Radula pallens, Nees in G. L. et N. Synop. Hepat., pp. 256 et 726.
Jungermannia pallens, Sw., Prodr. Fl. Ind. Occ., p. 143, et Fl. Ind. Occ., iii. p. 1847.

BERMUDAS.—In large spreading patches of the usual brown colour, but without perianths. Specimens were also collected in the same state by General Lefroy.

Aneura palmata, Nees?

Jungermannia palmata, Hedw.? Theor., Gen., ed. 1, t. 18, ex G. L. et N. Synop. Hepat., p. 499 (sub *Aneura*).

BERMUDAS.—Without fructification, and in a poor state.

Otiona aitonia, Lindb. et Nees (*Plagiochasma*).

Plagiochasma aitonia, Lindb. et Nees in G. L. et N. Synop. Hepat., p. 520.

BERMUDAS.—Barren.

Dumortiera hirsuta, R. Bl. et Nees.

Dumortiera hirsuta, R. Bl. et Nees in G. L. et N. Synop. Hepat., p. 543.
Marchantia hirsuta, Sw., Prodr. Fl. Ind. Occ., p. 145, et Fl. Ind. Occ., iii. p. 1879.

BERMUDAS.—Specimens with perfected fruit.

LICHENES.[1]

COLLEMACEI.

COLLEMEI.

Leptogium diaphanum, Mont.

Leptogium diaphanum, Mont.; Nyl., Synop. Lich., i. p. 125; Crombie in Journ. Linn. Soc. Lond., xvi. p. 214.
Leptogium tremelloides, var. *mesotomum*, Stirton in Journ. Linn. Soc. Lond., xiv. p. 369.
Lichen diaphanus, Swartz, Fl. Ind. Occ., p. 1893.

BERMUDAS.—On the bark of trees; fertile—*Moseley*.

Jamaica; Peru; Tahiti; Philippines.

Leptogium tremelloides, Fries.

Leptogium tremelloides, Fries; Nyl., Synop. Lich., i. p. 124; Crombie in Journ. Linn. Soc. Lond., xvi. p. 214.
Leptogium marginellum, Stirton in Journ. Linn. Soc. Lond., xiv. p. 369.

BERMUDAS.—On the bark of trees; fertile—*Moseley*.

Almost cosmopolitan, except in the colder regions.

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[1] The Rev. J. M. Crombie kindly gave his help in drawing up this list.

LICHENACEI.

CLADONIEI.

Cladonia acuminata, var. *hebescens*, Nyl.

Cladonia acuminata, var. *hebescens*, Nyl., n. var. in Journ. Linn. Soc. Lond., xvi. p. 214.

Differt a *Cladonia acuminata* squamulis crassiusculis subconvexulis. Sterilis modo visa. Forsan propria species.

BERMUDAS.—On the ground; very sparingly seen—*Moseley*.

Cladonia fibula, Hoffm.

Cladonia fibula, Hoffm., Fl. Germ., p. 127; Crombie in Journ. Linn. Soc. Lond., xvi. p. 214.
Cladonia turgida et var. *elegans*, Stirton in Journ. Linn. Soc. Lond., xiv. p. 370.

BERMUDAS.—On the ground; fertile—*Moseley*.

Europe, and doubtless other regions.

Cladonia mitrula, Tuckerm.

Cladonia mitrula, Tuckerm. in Darlingt. Fl. Cestr., p. 444, et Gen. Lich., p. 147; Nyl., Synop. Lich., i. p. 203; Crombie in Journ. Linn. Soc. Lond., xvi. p. 214.
Cladonia botrytes, Stirton in Journ. Linn. Soc. Lond., xiv. p. 370.

BERMUDAS.—On the ground; fertile—*Moseley*.

Common throughout the southern states of North America, and extending to Mexico and Cuba.

Cladonia pungens, Flœrk.

Cladonia pungens, Flœrk., Comm. Clad., p. 156; Crombie in Journ. Linn. Soc. Lond., xx. p. 83.
Cladonia furcata, Hoffm., var. *pungens*, Fries, Lich. Europ., p. 230; Nyl., Synop. Lich., i. p. 207.

BERMUDAS.—On the ground; sterile—*Moseley*.

Europe; Africa; North and South America; India; Australia.

RAMALINEI.

Ramalina complanata, Achar.

Ramalina complanata, Achar., Lich. Univ., p. 599; Crombie in Journ. Linn. Soc. Lond., xvi. p. 215.
Ramalina calicaris, forma 5, *complanata*, Nyl., Synop. Lich., i. p. 295.
Lichen complanatus, Swartz, Fl. Ind. Occ., p. 1911.
Ramalina bermudiana, Stirton in Journ. Linn. Soc. Lond., xiv. p. 370.

BERMUDAS.—On branches of trees; fertile—*Moseley*.

West Indies; Mexico; subtropical South America; Africa (Senegal); South Australia.

PARMELIEI.

Parmelia tinctorum, Despr.

Parmelia tinctorum, Despr.; Nyl. in litt. ex Crombie in Journ. Linn. Soc. Lond., xvi. p. 215.
Parmelia tiliacea, var. *scortea*, Stirton in Journ. Linn. Soc. Lond., xiv. p. 370.

BERMUDAS.—On putrid trunks; sterile—*Moseley*.

West Indies; Eastern Asia; but not rightly known.

Parmelia perlata, Achar.

Parmelia perlata, Achar., Meth. Lich., p. 216; Nyl., Synop. Lich., p. 379; Tuckerm., Gen. Lich. p. 21; Crombie in Journ. Linn. Soc. Lond., xvi. p. 215.
Parmelia physodes, var. *labrosa*, Stirton in Journ. Linn. Soc. Lond., xiv. p. 370.

BERMUDAS.—On old wood; sterile and sorediferous—*Moseley*.

Cosmopolitan, except frigid regions.

PHYSCIEI.

Physcia leana, Tuckerm.

Physcia leana, Tuckerm. in Nyl. Synop. Lich., i. p. 423; Crombie in Journ. Linn. Soc. Lond., xvi. p. 215.
Parmelia leana, Tuckerm. in Lea Catal. Pl. Cincinn., p. 45.
Physcia speciosa, Stirton in Journ. Linn. Soc. Lond., xiv. p. 370.

BERMUDAS.—On mossy trunks; fertile. Smaller state—*Moseley*.

United States (Ohio).

Physcia obsessa, Nyl.

Physcia obsessa, Nyl., Synop. Lich., i. p. 426; Crombie in Journ. Linn. Soc. Lond., xvi. p. 215.
Physcia stellaris, Stirton in Journ. Linn. Soc. Lond., xiv. p. 370.

BERMUDAS.—On thin bark, very sparingly; fertile—*Moseley*.

LECANOREI.

Lecanora subfusca, var. *sylvestris*, Nyl.

Lecanora subfusca, var. *sylvestris*, Nyl. in Mand. Lich. Mader., n. 1.; Crombie in Journ. Linn. Soc. Lond., xvi. p. 215.

BERMUDAS.—On thin bark associated with *Physcia obsessa*—*Moseley*.

(Spores 0·008–0·011 millim. long by 0·004–0·007 millim. thick.)

Previously known only from Madeira.

Lecanora chlaronella, Nyl.

Lecanora chlaronella, Nyl., n. sp.
Lecanora varia, var. *symmicta*, Stirton in Journ. Linn. Soc. Lond., xiv. p. 370.

Similis *Lecanoræ chlaroterodi*, Nyl. in Flora, 1876, p. 508, Cubanæ, sed differt gelatina hymenialis iodo vinose fulvescente (præcedentia cærulescentia). Spermogonia non visa.—Journ. Linn. Soc. Lond., xvi. p. 215.

BERMUDAS.—On bark of trees; a very small specimen only seen—*Moseley*.

Lecanora bermudensis, Nyl.

Lecanora bermudensis, Nyl., sp. n.
Lecanora subfusca, var. *argentata*, Stirton in Journ. Linn. Soc. Lond., xiv. p. 371.

Affinis *Lecanoræ umbrinæ*, sed mox differens, margine thallino apotheciorum integro, paraphysibus graciliscentibus, &c. Thallus K—.—Journ. Linn. Soc. Lond., xvi. p. 215.

BERMUDAS.—On bark of trees—*Moseley*.

Lecanora glaucomodes, Nyl.

Lecanora glaucomodes, Nyl. in Flora, 1876, p. 509; subsp. *conflectens*, Nyl. in Journ. Linn. Soc. Lond., xvi. p. 215.
Lecanora angulosa, var. *albo-pruinosa*, Stirton in Journ. Linn. Soc. Lond., xiv. p. 371.

Differt, *Lecanora conflectens* a *Lecanora glaucomodi*, paraphysibus distinctis, iodo gelatina hymeniale vinose fulvescente, &c.

BERMUDAS.—On the bark of trees—*Moseley*.

The typical form was collected in Cuba.

PERTUSARIEI.

Pertusaria papillata, Tuckerm.

Pertusaria papillata, Tuckerm., Synop. Lich. N. Am., p. 85; Journ. Linn. Soc. Lond., xvi. p. 215.
Pertusaria leioplaca, Stirton in Journ. Linn. Soc. Lond., xiv. p. 371.

BERMUDAS.—On the bark of trees; a mere fragment—*Moseley*.

North America.

Pertusaria pustulata, Schær.

Pertusaria pustulata, Schær, Spicil., p. 66; Nyl. in Triana et Planchon Prod. Flor. Nov. Granat. Crypt., p. 35; Crombie in Journ. Linn. Soc. Lond., xvi. p. 216.
Pertusaria melaleuca, Turn et Borr.; Stirton in Journ. Linn. Soc. Lond., xiv. p. 371.

BERMUDAS.—On the bark of trees; sparingly seen—*Moseley*.

Europe and North and South America.

LECIDEEI.

Lecidea fuscorubescens, Nyl.

Lecidea fuscorubescens, Nyl., Lich. Andam., p. 10; Journ. Linn. Soc. Lond., xvi. p. 216.
Lecidea caliginosa, Stirton in Journ. Linn. Soc. Lond., xiv. p. 371.

BERMUDAS.—On the bark of trees—*Moseley*.

West Indies; Asia (Andaman Islands).

Lecidea euporiza, Stirton.

Lecidea euporiza, Stirton, n. sp.

Thallus pallidus vel pallide cinereus, tenuis; apothecia parva, flavida, demum fusca, pellucida, plana, margine obscuriore, sessilia vel elevato-sessilia, intus nonnihil purpurascentia, cæteroquin incoloria; sporæ 8-næ, incolores, simplices, cylindraceæ, 0·02–0·032 millim. longæ, 0·0035 millim. crassæ, rectæ vel interdum curvulæ; paraphyses conglutinatæ et indistinctæ. Gelatina hymenialis iodo cærulescens, dein fulvescens.—Journ. Linn. Soc. Lond., xiv. p. 371.

BERMUDAS.—On the bark of trees—*Moseley*.

Thallus nearly concealed by an imperfectly developed and barren collema.

Lecidea semiusta, Stirton.

Lecidea semiusta, Stirton, n. sp.

Thallus niger, rimoso-diffractus, squamulosus, squamulis marginibus recurvis; apothecia nigra, sessilia, plana, marginata; sporæ 8-næ, incolores, elongato-ellipsoideæ rectæ vel curvulæ, normaliter 3-septatæ, interdum 1-septatæ vel simplices, 0·008–0·01 millim. longæ, 0·003 millim. crassæ; paraphyses indistinctæ, apicibus incoloribus; hypothecium leviter fuscescens. Gelatina hymenialis iodo dilute cærulescens, dein obscure violacea tincta.—Journ. Linn. Soc. Lond., xiv. p. 371.

BERMUDAS.—On rocks—*Moseley*.

"This belongs to the section of *Lecidea trachona*, Flot., and, indeed, may be merely a state of that species; but the fragment on which only two apothecia are visible is scarcely determinable. Spores 0·009–0·011 millim. long, 0·003 millim. thick."—Crombie in Journ. Linn. Soc. Lond., xvi. p. 216.

Lecidea revertens, Stirton.

Lecidea revertens, Stirton, n. sp.

Thallus (K— C—) albidus, continuus, tenuis, subfarinaceus; apothecia subinnata, minuta, fusco-nigra, humida, fusca, pellucida, margine obscuriore fere nigro, intus incoloria; sporæ 8-næ, incolores, simplices, fere cylindraceæ, 0·007 millim. longæ, 0·0025 crassæ, non

rite evolutæ; hypothecium incolor. Gelatina hymenialis iodo leviter cærulescens, dein obscure violacea.—Journ. Linn. Soc. Lond., xiv. p. 372.

BERMUDAS.—On calcareous rocks; a mere fragment—*Moseley.*

"This species is apparently closely allied to *Lecidea misella.* Spores 0·006–0·008 millim. long, 0·002–0·003 thick."—Crombie in Journ. Linn. Soc. Lond., xvi. p. 216.

Lecidea insperata, Nyl.

Lecidea insperata, Nyl. fide Crombie in Journ. Linn. Soc. Lond., xvi. p. 216.
Lecanora insperata, Nyl. in Triana et Planchon Prod. Fl. Nov. Granat. Crypt., p. 31.

BERMUDAS.—On the bark of trees associated with *Pertusaria pustulata*—*Moseley.*

South America (New Grenada).

Graphis afzelii, Achar.

Graphis afzelii, Achar., Synop., p. 85; Journ. Linn. Soc. Lond., xvi. p. 216.

BERMUDAS.—On bark of trees—*Moseley.*

All tropical countries, from Eastern Asia to South America.

Graphis (Lecanactis) lobata, Eschw.

Graphis (Lecanactis) lobata, Eschw. in Mart. Fl. Bras., p. 100; Journ. Linn. Soc. Lond., xvi. p. 216.
Graphis punctiformis, Stirton in Journ. Linn. Soc. Lond., xiv. p. 372.

BERMUDAS.—On bark of trees—*Moseley.*

South America (Brazil).

Graphis scripta, Achar.

Graphis scripta, Achar., Lich. Univ., p. 265; Crombie in Journ. Linn. Soc. Lond., xvi. p. 216.
Graphis nematodes, Stirton in Journ. Linn. Soc. Lond., xiv. p. 372.

BERMUDAS.—On branches of trees—*Moseley.*

Almost cosmopolitan, except the colder regions.

Arthonia polymorphoides, Nyl.

Arthonia polymorphoides, Nyl. sp. n.
Arthonia interveniens, Stirton in Journ. Linn. Soc. Lond., xiv. p. 372, non Nyl.

Sat similis *Arthoniæ polymorphæ* Achar. sed mox differt gelatina hymeniali iodo persistenter cærulescente et sporis vinose rubescentibus. Sporæ oblongæ, 5-septatæ, longit. 0·016–0·023 millim., crassit. 0·006–0·007 millim. Spermatia arcuata, longit. 0·012–0·016 millim., crassit. 0·0005 millim.—Journ. Linn. Soc. Lond., xvi. p. 216.

BERMUDAS.—On the bark of trees—*Moseley.*

Arthonia rubella, subsp. *inferiuscula*, Nyl.

Arthonia rubella, subsp. *inferiuscula*, Nyl.
Arthonia velata, Stirton, n. sp. in Journ. Linn. Soc. Lond., xiv. p. 372 (*nomen ante adhibitum*).

Differt ab *rubella* præsertim sporis nonnihil minoribus, 0·023–0·030 millim. longit., 0·009–0·015 millim. crassit.—Journ. Linn. Soc. Lond., xvi. p. 217.

Bermudas.—On the bark of trees; very sparingly seen—*Moseley.*

Pyrenocarpei.

Verrucaria ruderella, Nyl.

Verrucaria ruderella, Nyl. sp. n.

Similis *Verrucaria ruderum*, sed sporis longe minoribus, longit. 0·014–0·019 millim., crassit. 0·009–0·012 millim.—Journ. Linn. Soc. Lond., xvi. p. 217.

Bermudas.—On calcareous rocks, very sparingly, associated with *Lecidea semiusta*—*Moseley.*

Endococcus thalamita, Nyl.

Endococcus thalamita, Nyl. sp. n.

Pyrenia habet incoloria vel dilute fuscescentia immersa (latit. circiter 0·1 millim. vel minora) in thalamio *Lecideæ insperatæ;* thecæ polysporeæ; sporæ fuscæ, ellipsoideæ leviter 1-septatæ, longit. 0·007–0·010 millim., crassit. 0·003–0·004 millim. Iodo gelatina hymenialis vinose rubescens. Apothecia parasita occupata sine paraphysibus, thecis, etc. —Journ. Linn. Soc. Lond., xvi. p. 217.

Bermudas.—On the bark of trees, sparingly, associated with *Pertusaria pustulata*—*Moseley.*

Trypethelium cruentum, Mont.

Trypethelium cruentum, Mont., Syll. Crypt., p. 372; Journ. Linn. Soc. Lond., xiv. p. 372.

Bermudas.—On branches of trees—*Moseley.*

Tropical South America; Island of Rodriguez; Australia.

As this is going through the press, a small collection of Bermudan lichens, named by Prof. Ed. Tuckerman, has been received at Kew from Dr W. G. Farlow. In addition to some of the foregoing it includes others bearing the following names: *Physcia crispa*, Nyl., *Physcia picta*, Tuck., *Pyrenula aurantiaca*, Fée, *Pyrenulæ lacteæ* aff., *Cladonia fimbriata*, *Gyalecta Farlowii*, Tuck., *Opegrapha ophites*, Tuck., *Arthonia atrata*, Fée, *Pyxine picta*, Tuck., *Glyphis achariana*, Tuck., *Lecanora punicea*, Ach., *Lecanora pallescens*, Fr., *Verrucaria rupestris* and *Verrucaria bermudiana*, Tuck.

FUNGI.[1]

HYMENOMYCETES.

AGARICINI.

Agaricus (Mycena) alphitophorus, Berkl.

Agaricus (Mycena) alphitophorus, Berkl. in Journ. Linn. Soc. Lond., xv. p. 48.

Minutus, totus aleuriatus niveus; pileo conico-campanulato; stipite filiformi; lamellis angustis adscendentibus.

BERMUDAS.—Endemic. On small twigs, Devonshire Marsh—*Moseley*.

Scarcely a line high; stem half to one inch high, covered, as well as the pileus, with white mealy particles. Very delicate.

Agaricus (Mycena) corticola, Schum.

Agaricus (Mycena) corticola, Schum., Fl. Saell. n. 4689 ex Fries, Hymen. Europ., p. 152; Ic. Fung., t. 85; Cooke, Illus., t. 164, A.; Berkl. in Journ. Linn. Soc. Lond., xiv. p. 351.

BERMUDAS.—On dead wood—*Moseley*.

Northern hemisphere.

Agaricus (Entoloma), sp. Berkl.

Agaricus (Entoloma) sp. Berkl. in Journ. Linn. Soc. Lond., xiv. p. 351.

BERMUDAS.—A single specimen only, in very bad condition—*Moseley*.

It belongs clearly to the same section as *Agaricus nidorosus*, of which it has the irregular spores.

Agaricus (Nolanea) helictus, Berkl.

Agaricus (Nolanea) helictus, Berkl. in Journ. Linn. Soc. Lond., xv. p. 48.

Pileo profunde umbilicato sericeo; stipite torto; lamellis primum dente decurrentibus, demum adnexis; mycelio candido.

BERMUDAS.—Endemic. On rotten leaf-mould—*Moseley*.

Pileus about one inch across; stem one and a half inch high, slender. Very much wrinkled; when dry, of a pale umber, sometimes browner towards the margin; spores irregular, 0·0003 inch long.

In very young specimens the stem is darker; but without any information as to its colour when recent, its exact affinities cannot be ascertained.

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[1] We are indebted to Dr M. C. Cooke for assistance in drawing up the enumeration of this group.

Agaricus (Eccilia) rhodocylix, Lasch.

Agaricus (Eccilia) rhodocylix, Lasch in Linnæa, iv. n. 567; Fries, Hymen. Europ., p. 213; Cooke, Illus., t. 343, B.; Berkl. in Journ. Linn. Soc. Lond., xiv. p. 351.

Bermudas.—On the ground—*Moseley.*

Northern Europe; also occurring in Cuba.

Agaricus (Galera) tener, Schæff.

Agaricus (Galera) tener, Schæff., Ic. Fung. Bav., t. 70, figg. 6–8; Bull., Champ., t. 535, fig. 1; Berkl. in Journ. Linn. Soc. Lond., xiv. p. 351.

Bermudas.—On the ground—*Moseley.*

Widely dispersed in north temperate regions, and occurring in Tasmania, Australia.

Agaricus (Panæolus) papilionaceus, Bull.

Agaricus (Panæolus) papilionaceus, Bull., Champ., t. 561, fig. 2; Fries, Hymen. Europ., p. 311; Berkl. in Journ. Linn. Soc. Lond., xiv. p. 351.

Bermudas.—On dung—*Moseley.*

Europe; India; United States; Natal; Australia.

Marasmius sabali, Berkl.

Marasmius sabali, Berkl. in Journ. Linn. Soc. Lond., xv. p. 49.

Pileo reniformi tomentoso, demum resupinato; stipite brevissimo; lamellis distantibus adnatis postice rotundatis crassiusculis integerrimis, interstitiis venosis.

Bermudas.—Endemic. On leaf-stalks of *Sabal—Moseley.*

Pileus probably white when fresh; but the whole plant, when dry, is of a pinkish buff, soon resupinate, then at length sulcate; spores subglobose, 0·00028 inch long, hollowed out on one side.

Marasmius obscuratus, Berkl. et Broome.

Marasmius obscuratus, Berkl. et Broome in Journ. Linn. Soc. Lond., xiv. p. 38, et Berkl., l. c., p. 351.

Bermudas.—On bark—*Moseley.*

Either opaque or transparent, minutely pulverulent, gills broad. I can find no distinguishing character between this and the Ceylon species.

Ceylon.

Marasmius bermudensis, Berkl.

Marasmius bermudensis, Berkl. in Journ. Linn. Soc. Lond., xv. p. 49.

Pileo convexo pulverulento albido subsulcato, margine inflexo; stipite brevi sursum pellucido, deorsum pulverulento; lamellis distantibus breviter adnatis, interstitiis lævibus.

Bermudas.—Endemic. On dead coffee-wood, Paynter's Vale—*Moseley.*

Pileus about one line across; stem quarter to half an inch high; gills, when dry, pale tawny, with a white edge.

POLYPOREI.

Polyporus (Mesopus) arcularius, Fries.

Polyporus (Mesopus) arcularius, Fries, Syst. Myc., i. p. 342; Hymen. Europ., p. 526.

BERMUDAS.—Marsh near Mount Langton, on dead sticks—*Moseley.*

A slender form with a hispid stem.

Very widely dispersed in temperate and tropical regions.

Polyporus (Resupinatus) obliquus, Fries.

Polyporus (Resupinatus) obliquus, Fries, Syst. Myc., i. p. 378; Epicr., p. 482; Berkl. in Journ. Linn. Soc. Lond., x. p. 317 et xiv. p. 351.

BERMUDAS.—On dead sticks—*Moseley.*

Generally dispersed in warm and temperate countries.[1]

AURICULARINI.

Stereum lobatum, Fries.

Stereum lobatum, Fries, Epicr., p. 547; Berkl. in Journ. Linn. Soc. Lond., x. p. 331 et xiv. p. 351.

BERMUDAS.—On dead sticks—*Moseley.*

A small resupinate form.

Generally dispersed in warm countries, and extending in the southern hemisphere to New Zealand.

TREMELLINI.

Hirneola coffeicolor, Berkl.

Hirneola coffeicolor, Berkl. in Journ. Linn. Soc. Lond., xv. p. 49.

Coffeicolor foliacea parva, subtus glabra.

BERMUDAS.—Endemic. On coffee-bark, Paynter's Vale—*Moseley.*

The specimens are few in number, and possibly young. There seems, however, to be a fertile and a barren side; and if so, they must be referred to *Hirneola*, though the under side is smooth.

HYPODERMEI.

Uredo vincetoxici, DC.

Uredo vincetoxici, DC., Fl. Fr., vi. p. 85; Berkl. in Journ. Linn. Soc. Lond., xiv. p. 351.

BERMUDAS.—On leaves of oleander—*Moseley.*

Europe.

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[1] Several other species of *Polyporus* are erroneously recorded from Bermuda in Cooke's list of the species of this genus, in consequence of the author having overlooked the heading "Bahia" in the *Journal of the Linnean Society*, xv. p. 49, nearly at the bottom.

Ustilago carbo, Tul.

Ustilago carbo, Tul., Mém. Ustil., p. 78; Fisch. Waldh. in Ann. Sc. Nat., série 6, iv. p. 200; Berkl. in Journ. Linn. Soc. Lond., xv. p. 49.

Bermudas.—Without any memorandum—*Moseley.*

Generally dispersed where wheat, oats, and barley are cultivated.

Puccinia lantanæ, Farlow.

Puccinia lantanæ, Farlow, MSS. in Herb. Cooke.

Hypophylla. Uredo cum teleutosporis immixta.

Soris minutis sparsis vel plerumque in cæspitulis maculæformibus aggregatis, atro-fuscis. Uredosporis globosis ovatisque lævibus fuscis (0·02 × 0·015 mm. diam.) Teleutosporis ellipticis, medio constrictis, supra rotundatis, infra in stipitem brevem attenuatis, lævibus, fuscis (0·03–0·035 × 0·018–0·02 mm).—M. C. Cooke, MSS.

Bermudas.—On leaves of *Lantana odorata*—*Farlow.*

ASCOMYCETES.

Pyrenomycetes.

Hypoxylon concentricum, Grev.

Hypoxylon concentricum, Grev., Crypt. Scot. Flor., vi. t. 324; Saccardo, Syll. Fung., iii. p. 393 (sub. *Daldinia*); Berkl. in Journ. Linn. Soc. Lond., xv. p. 49.

Bermudas.—On dead wood, Devonshire Marsh—*Moseley.*

Widely diffused in temperate and tropical regions.

Hypoxylon multiforme, Fries.

Hypoxylon multiforme, Fries, Summ. Veg. Scand., p. 384; Saccardo, Syll. Fung., i. p. 363; Berkl. in Journ. Linn. Soc. Lond., xiv. p. 351.

Bermudas.—On decayed wood—*Moseley.*

Throughout Europe, India, and North America, northward to Kamtschatka.

Sphæria mammæformis, Pers.

Sphæria mammæformis, Pers., Synop. Fung., p. 64; Saccardo, Syll. Fung., iii. p. 258 (sub *Rosellinia*); Berkl. in Journ. Linn. Soc. Lond., xiv. p. 351.

Bermudas.—On dead sticks, both on the bark and on the wood; in the former case looking very like a *Verrucaria*—*Moseley.*

North and south temperate regions.

Asterina pelliculosa, Berkl.

Asterina pelliculosa, Berkl. in Hook. f. Fl. Antarct., ii. p. 453, t. 164, fig. 1; Saccardo, Syll. Fung., iii. p. 46; Berkl. in Journ. Linn. Soc. Lond., xiv. p. 352.

BERMUDAS.—On coffee leaves—*Moseley*.

Ceylon; Cuba; North America; Tahiti, &c.

DISCOMYCETES.

Geoglossum hirsutum, Pers.

Geoglossum hirsutum, Pers., Comment., p. 37; Cooke, Mycogr., i. t. 1; Berkl., Journ. Linn. Soc. Lond., xv. p. 49.

BERMUDAS.—On dead sphagnum under ferns in Devonshire Marsh—*Moseley*.

The head, as well as the stem, is hispid.

Widely spread in the temperate zone of the northern hemisphere, also in Java, Mauritius, Bourbon, Cuba, and New Zealand.

HYPHOMYCETES.

Sporidesmium antiquum, Corda.

Sporidesmium antiquum, Corda, Ic. Fung., iii. fig. 11, var. *sparsum*, Berkl. in Journ. Linn. Soc. Lond., xv. p. 49.

BERMUDAS.—On dead stems—*Moseley*.

North temperate regions; Bombay.

MYXOMYCETES.

Lycogala epidendrum, Fries.

Lycogala epidendrum, Fries, Syst. Myc., iii. p. 80; Rostaf., Mon., p. 285; Cooke, Myx. Brit., p. 75; Berkl. in Journ. Linn. Soc. Lond., xiv. p. 351.

BERMUDAS.—On fern (*Osmunda*); abundant—*Moseley*.

Widely dispersed in warm and temperate countries, including Australia.

ALGÆ.

MELANOSPERMEÆ.

FUCACEÆ.

Sargassum linifolium, K. A. Agardh.

Sargassum linifolium, K. A. Agardh, Sp. Alg., i. p. 18; Kütz., Sp. Alg., p. 614; Rein in Bericht Senckenb. Naturf. Gesellsch., Frankf. am M., 1873, p. 151.

BERMUDAS.—*Rein*.

Mediterranean; Adriatic; Senegambia; Mauritius.

Sargassum bacciferum, K. A. Agardh.

Sargassum bacciferum, K. A. Agardh, Sp. Alg., i. p. 6; Harv., Nereis Bor.-Am., i. p. 59; Kütz., Sp. Alg., p. 609; Rein in Bericht Senckenb. Naturf. Gesellsch., Frankf. am M., 1873, p. 151.

BERMUDAS. *Kemp; Rein; Captain Ker*, 1799.

Generally diffused.

Sargassum vulgare, K. A. Agardh.

Sargassum vulgare, K. A. Agardh, Sp. Alg., i. p. 3, quoad α, β, et δ; Harv., Nereis Bor.-Am., i. p. 57; Rein in Bericht Senckenb. Naturf. Gesellsch., Frankf. am M., 1873, p. 151.

Sargassum boryanum, Mont., Fl. Alg., i. p. 45, t. 1, fig. 3, et Syll. Gen. et Sp. Crypt., p. 385.

BERMUDAS. *Rein.*

Very widely diffused.

Sargassum affine, J. G. Agardh.

Sargassum affine, J. G. Agardh, ex Kütz., Sp. Alg., p. 610; Harv., Nereis Bor.-Am., i. 59; Dickie in Journ. Linn. Soc. Lond., xv. p. 488.

BERMUDAS. *Moseley; Rein.*

Eastern Mexico; Brazil; Canaries; Cape of Good Hope.

Sargassum lendigerum, K. A. Agardh.

Sargassum lendigerum, K. A. Agardh, Sp. Alg., i. p. 9; Kütz., Sp. Alg., p. 612; Rein in Bericht Senckenb. Naturf. Gesellsch., Frankf. am M., 1873, p. 151.

BERMUDAS. *Rein.*

Originally described from specimens from the coast of Ascension Island.

SPOROCHNACEÆ.

Sporochnus pedunculatus, K. A. Agardh.

Sporochnus pedunculatus, K. A. Agardh, Sp. Alg., p. 149; Kütz., Sp. Alg., p. 568; Kemp in Canad. Nat. and Geol., May 1857.

BERMUDAS. *Kemp.*

Shores of Western Europe, the Adriatic, and a variety on the coast of South Australia.

DICTYOTACEÆ.

Haliseris justii, K. A. Agardh.

Haliseris justii, K. A. Agardh, Sp. Alg., i. p. 142; Kütz., Sp. Alg., p. 562; Dickie in Journ. Linn. Soc. Lond., xiv. p. 313.

Dictyopteris justii, Lamour., extr. Journ. Philom., p. 18, t. 6.

BERMUDAS. *Moseley.*

All dredged in thirty-one fathoms; very dwarfed, and denticulate with one exception; in other general characters and colour similar to specimens from shallow water.

West Indies and South America.

Haliseris plagiogramma, Mont.

Haliseris plagiogramma, Mont., Cuba, p. 63, t. 3, fig. 3, et Syll. Pl. Crypt., p. 397; Kütz., Sp. Alg., p. 562; Rein in Bericht Senckenb. Naturf. Gesellsch., Frankf. am M., 1873, p. 151.

Bermudas. *Rein.*

Cuba; Fernando-Noronha; Brazil.

Haliseris polypodioides, K. A. Agardh.

Haliseris polypodioides, K. A. Agardh, Sp. Alg., i. p. 142; Harv., Nereis Bor.-Am., i. p. 101; Rein in Bericht Senckenb. Naturf. Gesellsch., Frankf. am M., 1873, p. 151.

Bermudas. *Kemp; Rein.*

Widely spread in the North Atlantic, and entering the British Channel; also in the Mediterranean and on the eastern coast of Australia.

Padina pavonia, Gaill.

Padina pavonia, Gaill., Résum., p. 24; Harv., Phyc. Brit., t. 91, et Nereis Bor.-Am., i. p. 104; Dickie in Journ. Linn. Soc. Lond., xiv. p. 313.

Zonaria pavonia, K. A. Agardh, Sp. Alg., i. p. 125; Kütz., Sp. Alg., p. 565.

Bermudas. *Moseley; Kemp; Rein.*

Generally spread.

Zonaria lobata, K. A. Agardh.

Zonaria lobata, K. A. Agardh, Syst. Alg., p. 265; Harv., Nereis Bor.-Am., i. p. 105; Rein in Bericht Senckenb. Naturf. Gesellsch., Frankf. am M., 1873, p. 151; Dickie in Journ. Linn. Soc. Lond., xiv. p. 313.

Stypodium fuliginosum, Kütz., Sp. Alg., p. 563.

Bermudas.—Shallows only—*Moseley; Kemp; Rein.*

Atlantic and Pacific Oceans, on the shores of the Canaries and America; also of New Zealand and Ceylon.

Zonaria variegata, K. A. Agardh.

Zonaria variegata, K. A. Agardh, Sp. Alg., i. p. 127; Harv., Nereis Bor.-Am., i. p. 106; Dickie in Journ. Linn. Soc. Lond., xiv. p. 313.

Spatoglossum variegatum, Kütz., Sp. Alg., p. 560.

Dictyota variegata, Lamour. in Journ. de Bot., Paris, 1809, ii. p. 40.

Bermudas.—Shallows, and many from thirty-one fathoms; the former olive, the latter mostly bluish green in colour, and rather thinner in texture than usual—*Moseley; Kemp.*

West Indies; South America; Australia; Polynesia; Mauritius.

Taonia schrœderi, Mert.

Taonia schrœderi, Mert. ex J. G. Agardh, Sp. Alg., i. p. 102; Harv., Nereis Bor.-Am., i. p. 107.

BERMUDAS. *Farlow.*

West Indies; Brazil; India; Ceylon.

Dictyota ciliata, J. G. Agardh.

Dictyota ciliata, J. G. Agardh in Linnæa, 1841, p. 5; Kütz., Sp. Alg., p. 556, non Lamour. in Journ. de Bot. Paris, 1809, ii. p. 41; Harv., Nereis Bor.-Am., i. p. 110; Rein in Bericht Senckenb. Naturf. Gesellsch., Frankf. am M., 1873, p. 151.

BERMUDAS. *Kemp; Rein.*

Florida; West Indies; Brazil; Australia; Ceylon.

Dictyota bartayresiana, Lamour.

Dictyota bartayresiana, Lamour. in Journ. de Bot. Paris, 1809, ii. p. 43; Kütz., Sp. Alg., p. 554; Harv., Nereis Bor.-Am., i. p. 110; Dickie in Journ. Linn. Soc. Lond., xiv. p. 313.

BERMUDAS.—Shallows only—*Moseley*

"Small and rather imperfect, but, I think, may be referred to this species."—*Dickie.*

Florida, West Indies, shores of the Atlantic Islands, the Persian Gulf, and Mauritius.

Dictyota ligulata, Kütz.

Dictyota ligulata, Kütz. in Bot. Zeit., 1847, p. 53, et Sp. Alg., p. 554; Dickie in Journ. Linn. Soc. Lond., xiv. p. 313.

BERMUDAS.—From thirty-one fathoms—*Moseley.*

Mediterranean.

Dictyota dichotoma, Lamour.

Dictyota dichotoma, Lamour. in Journ. de Bot. Paris, 1809, ii. p. 42; Kütz., Sp. Alg., p. 554; Harv., Nereis Bor.-Am., i. p. 109; Dickie in Journ. Linn. Soc. Lond., xiv. p. 313.
Ulva dichotoma, Huds., Fl. Angl., ed. 1, p. 476.

BERMUDAS.—Some from thirty-one fathoms seem to be dwarf forms of this species—*Moseley; Kemp; Rein.*

Very widely diffused.

Dictyota crenulata, J. G. Agardh.

Dictyota crenulata, J. G. Agardh, Fucoid., p. 94; Kütz., Sp. Alg., p. 558; Harv., Nereis Bor.-Am., i. p. 111; Kemp. in Canad. Nat. and Geol., May 1857.

BERMUDAS. *Kemp.*

Eastern coast of Mexico.

Dictyota fasciola, Lamour.

Dictyota fasciola, Lamour. in Journ. de Bot. Paris, 1809, ii. p. 43; Kütz., Sp. Alg., p. 555; Harv., Nereis Bor.-Am., i. p. 108; Rein in Bericht Senckenb. Naturf. Gesellsch., Frankf. am M., 1873, p. 151.

Zonaria fasciola, K. A. Agardh, Sp. Alg., i. p. 136.

BERMUDAS. *Rein.*

Florida; Mediterranean; Red Sea; Ceylon.

Asperococcus sinuosus, Bory.

Asperococcus sinuosus, Bory, Morée, iii. p. 326, ex J. G. Agardh, Sp. Alg., i. p. 75; Harv., Nereis Bor.-Am., i. p. 117; Dickie in Journ. Linn. Soc. Lond., xiv. p. 313.

Encœlium sinuosum, K. A. Agardh, Sp. Alg., p. 146; Kütz., Sp. Alg., p. 552.

BERMUDAS.—In shallow water—*Moseley; Kemp; Rein.*

Widely diffused, though we have seen no specimens from Polynesia or Western America, except from Juan Fernandez and the extreme northwest.

CHORDARIACEÆ.

Mesogloia vermicularis, K. A. Agardh.

Mesogloia vermicularis, K. A. Agardh, Syst. Alg., p. 51; Kütz., Sp. Alg., p. 544; Harv., Nereis Bor.-Am. i. p. 126; Rein in Bericht Senckenb. Naturf. Gesellsch., Frankf. am M., 1873, p. 152.

BERMUDAS. *Kemp; Rein.*

Western Europe; Mediterranean.

Mesogloia griffithsiana, Grev.

Mesogloia griffithsiana, Grev.; Kütz., Sp. Alg., p. 545; Harv., Nereis Bor.-Am., i. p. 127; Kemp in Canad. Nat. and Geol., May 1857.

BERMUDAS. *Kemp.*

Coast of England; Heligoland.

Perhaps an error in determination, or the specimen from some other locality.

Mesogloia virescens, Carm.

Mesogloia virescens, Carm.; Hook., Br. Fl., ii. p. 387, ex Kütz., Sp. Alg., p. 545; Harv., Nereis Bor.-Am., i. p. 126; Dickie in Journ. Linn. Soc. Lond., xiv. p. 313.

BERMUDAS.—Shallows only—*Moseley; Kemp.*

Western Europe; eastern North America; Australasia.

RHODOSPERMEÆ.

RHODOMELACEÆ.

Acanthophora thierii, Lamour.

Acanthophora thierii, Lamour., Ess., p. 44; Kütz., Sp. Alg., p. 858; Harv., Nereis Bor.-Am., ii. p. 17, t. 14, A.; Rein in Bericht Senckenb. Naturf. Gesellsch., Frankf. am M., 1873, p. 152.

BERMUDAS. *Kemp; Rein.*

Florida; West Indies; Fernando-Noronha; Polynesia; Mauritius, &c.

Chondria littoralis, Harv.

Chondria littoralis, Harv., Nereis Bor.-Am., ii. p. 22; Rein in Bericht Senckenb. Naturf. Gesellsch., Frankf. am M., 1873, p. 152.

BERMUDAS. *Rein.*

Key West, Florida.

Alsidium blodgettii, Harv.

Alsidium blodgettii, Harv., Nereis Bor.-Am., ii. p. 16, t. 15, B.; Rein in Bericht Senckenb. Naturf. Gesellsch., Frankf. am. M., 1873, p. 152.

BERMUDAS. *Rein.*

Florida.

Digenia simplex, K. A. Agardh.

Digenia simplex, K. A. Agardh, Sp. Alg., i. p. 389; Harv., Nereis Bor.-Am., ii. p. 30; Rein in Bericht Senckenb. Naturf. Gesellsch., Frankf. am M., 1873, p. 152.
Digenea wulfeni, Kütz., Sp. Alg., p. 841.

BERMUDAS. *Kemp; Rein.*

Mediterranean and Red Seas; Mauritius; Rodriguez; eastern North America.

Polysiphonia secunda, Mont.

Polysiphonia secunda, Mont., Cuba, p. 33, t. 5, fig. 2, et Syll. Gen. et Sp. Crypt., p. 424; Kütz., Sp. Alg., p. 804; Harv., Nereis Bor.-Am., ii. p. 35.
Polysiphonia pecten-veneris, Harv., Nereis Bor.-Am., iii. p. 46, ex Farlow.

BERMUDAS. *Farlow.*

Florida Keys; West Indies; Mediterranean; Mauritius; Ceylon.

Polysiphonia subtilissima, Mont.

Polysiphonia subtilissima, Mont., Cent., ii. n. 6, et Syll. Gen. et Sp. Crypt., p. 422; Kütz., Sp. Alg., p. 804; Dickie in Journ. Linn. Soc. Lond., xiv. p. 314; Harv., Nereis Bor.-Am., ii. p. 34.

BERMUDAS.—Shallow lagoons—*Moseley.*

Eastern North America; Cayenne.

Polysiphonia exilis, Harv.

Polysiphonia exilis, Harv., Nereis Bor.-Am., ii. p. 47; Dickie in Journ. Linn. Soc. Lond., xiv. p. 313.

BERMUDAS.—Shallow lagoons—*Moseley*.

Key West, Florida.

Polysiphonia nigrescens, Grev.

Polysiphonia nigrescens, Grev.; Harv., Nereis Bor.-Am., ii. p. 49; Kütz., Sp. Alg., p. 813; Rein in Bericht Senckenb. Naturf. Gesellsch., Frankf. am M., 1873, p. 152.

BERMUDAS. *Rein.*

Northern and Western Europe; eastern North America; New Zealand.

Polysiphonia fibrillosa, Grev.

Polysiphonia fibrillosa, Grev.; J. G. Agardh, Sp. Alg., ii. p. 991; Harv., Nereis Bor.-Am., ii. p. 43; Kütz., Sp. Alg., p. 827; Rein in Bericht Senckenb. Naturf. Gesellsch., Frankf. am M., 1873, p. 152.

BERMUDAS. *Kemp; Rein.*

Western Europe; eastern North America.

Polysiphonia elongata, Grev.

Polysiphonia elongata, Grev.; J. G. Agardh, Sp. Alg., ii. p. 1004; Harv., Nereis Bor.-Am., ii. p. 42; Kütz., Sp. Alg., p. 828; Kemp in Canad. Nat. and Geol., May 1857.

BERMUDAS. *Kemp.*

Shores of the North Atlantic, Mediterranean, Adriatic, and Black Seas.

Bostrychia calamistrata, Mont.

Bostrychia calamistrata, Mont., Syll. Gen. et Sp. Crypt., p. 419; Kütz., Sp. Alg., p. 839; Harv. Nereis Bor.-Am., ii. p. 56, t. 14, C.
Rhodomela calamistrata, Mont., Cuba, p. 36, t. 4, fig. 1.

BERMUDAS. *Farlow.*

West Indies.

Bostrychia sertularia, Mont.

Bostrychia sertularia, Mont. in Ann. Sc. Nat., sér. 4, xii. p. 176.

BERMUDAS. *Farlow.*

Guiana.

Bostrychia montagnei, Harv.

Bostrychia montagnei, Harv., Nereis Bor.-Am., ii. p. 55, t. 14, B.; Rein in Bericht Senckenb. Naturf. Gesellsch., Frankf. am M., 1873, p. 152.

BERMUDAS. *Rein; Farlow.*

Key West, Florida.

It is probable that the alga named *Bostrychia scorpioides*, Mont., by Kemp, is this species.

Dasya elegans, K. A. Agardh.

Dasya elegans, K. A. Agardh, Sp. Alg., ii. p. 117; Kütz., Sp. Alg., p. 796; Harv., Nereis Bor.-Am., ii. p. 60; Rein in Bericht Senckenb. Naturf. Gesellsch., Frankf. am M., 1873, p. 152.

BERMUDAS. *Rein.*

Adriatic; Canaries; and common on the eastern coast of North America.

Dasya tumanowiczii, Gatty.

Dasya tumanowiczii, Gatty; Harv., Nereis Bor.-Am., ii. p. 64; Dickie in Journ. Linn. Soc. Lond., xiv. p. 314.

BERMUDAS.—In shallow lagoons—*Moseley.*

Florida; West Indies; Brazil.

Dasya mucronata, Harv.

Dasya mucronata, Harv., Nereis Bor.-Am., ii. p. 63; Kemp in Canad. Nat. and Geol., May 1857.

BERMUDAS. *Kemp.*

Key West, Florida.

LAURENCIACEÆ.

Laurencia obtusa, Lamour.

Laurencia obtusa, Lamour., Ess., p. 42; Kütz., Sp. Alg., p. 854; Harv., Phyc. Brit., t. 148, et Nereis Bor.-Am., ii. p. 72; Dickie in Journ. Linn. Soc. Lond., xiv. p. 314.

BERMUDAS. *Moseley; Kemp; Rein.*

A very widely dispersed species.

Laurencia gemmifera, Harv.

Laurencia gemmifera, Harv., Nereis Bor.-Am., ii. p. 73, t. 18, B.; Dickie in Journ. Linn. Soc. Lond., xiv. p. 314.

BERMUDAS.—Shallow water—*Moseley; Rein.*

Florida Keys.

Laurencia papillosa, Grev.

Laurencia papillosa, Grev.; J. G. Agardh, Sp. Alg., ii. p. 756; Kütz., Sp. Alg., p. 855; Harv., Nereis Bor.-Am., p. 74; Rein in Bericht Senckenb. Naturf. Gesellsch., Frankf. am M., 1873, p. 152.

BERMUDAS. *Kemp; Rein.*

Widely diffused in the Atlantic, Pacific, and Indian Oceans, and in the Mediterranean and Red Seas, &c.

The alga identified by Kemp as *Laurencia scoparia*, J. G. Agardh, may be the same as this.

Asparagopsis delilei, Mont.

Asparagopsis delilei, Mont., Syll. Gen. et Sp. Crypt., p. 428; Kütz., Sp. Alg., p. 802; Rein in Bericht Senckenb. Naturf. Gesellsch., Frankf. am M., 1873, p. 152.

Dasya delilei, Mont., Canar., p. 166, t. 8, fig. 6.

BERMUDAS. *Rein.*

Canaries; Mauritius; Philippines; South Australia.

WRANGELIACEÆ.

Wrangelia penicillata, K. A. Agardh.

Wrangelia penicillata, K. A. Agardh, Sp. Alg., ii. p. 138; J. G. Agardh, Sp. Alg., ii. p. 708; Harv., Nereis Bor.-Am., ii. p. 143, t. 34, B.; Rein in Bericht Senckenb. Naturf. Gesellsch., Frankf. am M., 1873, p. 152.

BERMUDAS. *Kemp; Rein.*

Mediterranean; Adriatic; Florida; West Australia.

CORALLINACEÆ.

Jania cubensis, Mont.

Jania cubensis, Mont. in Kütz. Sp. Alg., p. 709, et Syll. Gen. et Sp. Crypt., p. 429; Harv., Nereis Bor.-Am., ii. p. 84; Rein in Bericht Senckenb. Naturf. Gesellsch., Frankf. am M., p. 152.

BERMUDAS. *Rein.*

Florida; Cuba; Fernando-Noronha; Cape Verde Islands.

Amphiroa fragilissima, Lamour.

Amphiroa fragilissima, Lamour., Polyp. Flex., p. 298, ex Kütz., Sp. Alg., p. 700; Harv., Nereis Bor.-Am., ii. p. 85; Dickie in Journ. Linn. Soc. Lond., xv. p. 488.

BERMUDAS. *Moseley.*

Florida Keys; West Indies; Cape Verde Islands; St Helena; Ceylon; Mauritius; Philippines; Admiralty Islands; Pacific coast of South America.

Farlow (Alg. Exsic. Am.-Bor., n. 15) refers *Amphiroa decipiens*, Kütz., not of Harv., Nereis, to this species.

Amphiroa debilis, Kütz.

Amphiroa debilis, Kütz., Sp. Alg., p. 700; Harv., Nereis Bor.-Am., ii. p. 86; Rein in Bericht Senckenb. Naturf. Gesellsch., Frankf. am M., 1873, p. 152.

BERMUDAS. *Rein.*

Florida Keys; Cuba.

Melobesia pustulata, Lamour.

Melobesia pustulata, Lamour., Polyp. Flex., p. 315, t. 12; Kütz., Sp. Alg., p. 696; Dickie in Journ. Linn. Soc. Lond., xiv. p. 314.

BERMUDAS.—From thirty-one fathoms, on various algæ—*Moseley.*

Widely spread in the Atlantic and Mediterranean, and in the Southern Ocean.

Melobesia agariciformis, Harv.

Melobesia agariciformis, Harv., Phyc. Brit., t. 73.
Spongites agariciformis, Kütz., Sp. Alg., p. 698.

BERMUDAS. *Lefroy.*

Eastern North Atlantic; Mediterranean.

SPHÆROCOCCOIDEÆ.

Botryoglossum platycarpum, Kütz.

Botryoglossum platycarpum, Kütz., Sp. Alg., p. 881; Harv., Nereis Bor.-Am., ii. p. 100, t. 21, A.; Kemp in Canad. Nat. and Geol., May 1857.

BERMUDAS. *Kemp.*

California; Falkland Islands; Cape of Good Hope; Heard Island.

As neither Rein nor Moseley collected this alga in the Bermudas, and as there is no other record of it from the Atlantic, there may be an error in Kemp's naming.

Gracilaria confervoides, Grev.

Gracilaria confervoides, Grev., Alg. Brit., p. 123; J. G. Agardh, Sp. Alg., ii. p. 587; Harv., Nereis Bor.-Am., ii. p. 108; Dickie in Journ. Linn. Soc. Lond., xiv. p. 314.

BERMUDAS. *Moseley; Kemp.*

Ubiquitous.

Gracilaria armata, J. G. Agardh.

Gracilaria armata, J. G. Agardh, Sp. Alg., ii. p. 591; Kütz., Sp. Alg., p. 774; Harv., Nereis Bor.-Am., ii. p. 109; Rein in Bericht Senckenb. Naturf. Gesellsch., Frankf. am M., 1873, p. 152.

BERMUDAS. *Kemp; Rein.*

Mediterranean; Florida; Fernando-Noronha.

Gracilaria cervicornis, J. G. Agardh.

Gracilaria cervicornis, J. G. Agardh, Sp. Alg., ii. p. 604; Harv., Nereis Bor.-Am., ii. p. 107; Dickie in Journ. Linn. Soc. Lond., xiv. p. 314.

BERMUDAS.—One dwarf specimen from thirty-one fathoms—*Moseley.*

West Indies; Mexico; eastern South America.

Gracilaria poitei, Lamour.

Gracilaria poitei, Lamour., Diss., p. 63; J. G. Agardh, Sp. Alg., ii. p. 596; Harv., Nereis Bor.-Am., ii. p. 110; Dickie in Journ. Linn. Soc. Lond., xiv. p. 314.

BERMUDAS.—Shallows—*Moseley.*

Florida; West Indies; eastern South America; Ceylon.

Gracilaria ferox, J. G. Agardh.

Gracilaria ferox, J. G. Agardh, Sp. Alg., ii. p. 592; Dickie in Journ. Linn. Soc. Lond., xiv. p. 314.

BERMUDAS.—From shallows—*Moseley.*

West Indies.

Gracilaria divaricata, Harv.

Gracilaria divaricata, Harv., Nereis Bor.-Am., ii. p. 109; Kemp. in Canad. Nat. and Geol., May 1857.

BERMUDAS. *Kemp.*

Florida.

Gracilaria multipartita, Harv.

Gracilaria multipartita, Harv., Phyc. Brit., t. 15; J. G. Agardh, Sp. Alg., ii. p. 600; Harv., Nereis Bor.-Am., ii. p. 107; Kemp. in Canad. Nat. and Geol., May 1857.

BERMUDAS. *Kemp.*

A very widely diffused species.

GELIDIACEÆ.

Gelidium rigidum, Mont.

Gelidium rigidum, Mont., Cuba, p. 46, ex Kütz., Sp. Alg., p. 766; J. G. Agardh, Sp. Alg., ii. p. 468; Rein in Bericht Senckenb. Naturf. Gesellsch., Frankf. am M., 1873, p. 152.

BERMUDAS. *Rein.*

West Indies; Brazil; Polynesia; Indian Ocean; Red Sea, &c.

Gelidium corneum, Lamour.

Gelidium corneum, Lamour., Ess., p. 41; Kütz., Sp. Alg., p. 764; J. G. Agardh, Sp. Alg., ii. p. 469; Harv., Phyc. Brit., t. 53; Harv., Nereis Bor.-Am., ii. p. 116; Kemp in Canad. Nat. and Geol., May 1857.

Bermudas. *Kemp.*

Generally diffused.

Wurdemannia setacea, Harv.

Wurdemannia setacea, Harv., Nereis Bor.-Am. ii., p. 246; Kütz., Tab. Phyc., xix. t. 26; Rein in Bericht Senckenb. Naturf. Gesellsch., Frankf. am M., 1873, p. 152.

Bermudas. *Rein.*

Florida Keys.

Hypnea musciformis, Lamour.

Hypnea musciformis, Lamour., Ess., p. 43; J. G. Agardh, Sp. Alg., ii. p. 442; Kütz., Sp. Alg., p. 758; Harv., Nereis Bor.-Am., ii. p. 123; Rein in Bericht Senckenb. Naturf. Gesellsch., Frankf. am M., 1873, p. 152.

Bermudas. *Kemp; Rein.*

Mediterranean; Atlantic; Indian Ocean; Australasia, &c.

Hypnea cornuta, Lamour.

Hypnea cornuta, Lamour., ex J. G. Agardh, Sp. Alg., ii. p. 449; Harv., Nereis Bor.-Am., ii. p. 125; Dickie in Journ. Linn. Soc. Lond., xiv. p. 314.

Bermudas.—From shallows and from thirty-one fathoms—*Moseley.*

Florida; West Indies; Guiana; Manilla; Ceylon; Mauritius.

Eucheuma isiforme, J. G. Agardh.

Eucheuma isiforme, J. G. Agardh, Sp. Alg., ii. p. 627; Harv., Nereis Bor.-Am., ii. p. 118; Dickie in Journ. Linn. Soc. Lond., xiv. p. 314.

Bermudas. *Moseley; Kemp; Rein.*

Florida; West Indies.

SQUAMARIEÆ.

Peyssonelia dubyi, Crouan.

Peyssonelia dubyi, Crouan in Ann. Sc. Nat., 1844, p. 368, t. 11, B.; Harv., Phyc. Brit., t. 71, et Nereis Bor.-Am., ii. p. 130; Kütz., Sp. Alg., p. 694; Dickie in Journ. Linn. Soc. Lond., xiv. p. 314.

Bermudas.—From thirty-one fathoms—*Moseley.*

Coast of Britain and Northern France; Cape Verde Islands; Florida.

HELMINTHOCLADEÆ.

Liagora valida, Harv.

Liagora valida, Harv., Nereis Bor.-Am., ii. p. 138, t. 31, A.; Dickie in Journ. Linn. Soc. Lond., xiv. p. 314.

BERMUDAS. In shallows—*Moseley; Kemp; Rein.*

Florida Keys.

The plant named *Liagora pulverulenta* by Kemp may be the same as this.

Galaxaura fastigiata, Dcne.

Galaxaura fastigiata, Dcne.; Kütz., Sp. Alg., p. 530; Rein in Bericht Senckenb. Naturf. Gesellsch., Frankf. am M., 1873, p. 152.

BERMUDAS. *Rein.*

Philippines.

We include this entirely on Rein's authority, having seen only Cuming's specimens from the Philippines.

Galaxaura lapidescens, Lamour.

Galaxaura lapidescens, Lamour., Polyp. Flex., p. 264; Kütz., Sp. Alg., p. 530; Dickie in Journ. Linn. Soc. Lond., xiv. p. 315.

BERMUDAS.—From thirty fathoms—*Moseley.*

Cape Verde and Canary Islands; St Helena; Florida; Sandwich Islands; Polynesia; Mauritius.

Galaxaura rugosa, Lamour.

Galaxaura rugosa, Lamour., Polyp. Flex., p. 263; Kütz., Sp. Alg., p. 530; Dickie in Journ. Linn. Soc. Lond., xiv. p. 315.

BERMUDAS.—From shallows, and also from thirty-one fathoms—*Moseley.*

Cape Verde Islands; West Indies; Mauritius.

Scinaia furcellata, Bivona.

Scinaia furcellata, Bivona in L'Iride, Palermo, 1822, cum icone; J. G. Agardh, Sp. Alg., ii. p. 422; Harv., Nereis Bor.-Am., ii. p. 136; Dickie in Journ. Linn. Soc. Lond., xiv. p. 315.

BERMUDAS.—A solitary and imperfect specimen from thirty-one fathoms—*Moseley.*

Widely diffused.

Helminthora divaricata, J. G. Agardh.

Helminthora divaricata, J. G. Agardh, Sp. Alg., ii. p. 416; Harv., Nereis Bor.-Am., ii. p. 133; Kemp in Canad. Nat. and Geol., May 1857.

BERMUDAS. *Kemp.*

Florida; Western Europe; Mediterranean; Australasia.

RHODYMENIACEÆ.

Rhodymenia palmata, Grev.

Rhodymenia palmata, Grev.; Harv., Phyc. Brit., tt. 217 et 218, et Nereis Bor.-Am., ii. p. 148; Kemp in Canad. Nat. and Geol., May 1857.

BERMUDAS. *Kemp.*

A common and widely dispersed species; yet neither this nor the next was collected in the Bermudas by either Rein or Moseley.

SPYRIDIACEÆ.

Spyridia aculeata, Kütz.

Spyridia aculeata, Kütz., Sp. Alg., p. 668 (excl. synon.), ex Harv., Nereis Bor.-Am., ii. p. 205; Kemp in Canad. Nat. and Geol., May 1857.

BERMUDAS. *Kemp.*

Florida Keys; Cadiz; Cape Verde Islands; Mediterranean; Red Sea.

Spyridia filamentosa, Harv.

Spyridia filamentosa, Harv., Nereis Bor.-Am., ii. p. 204, t. 34, A.; Rein in Bericht Senckenb. Naturf. Gesellsch., Frankf. am M., 1873, p. 152.

BERMUDAS. *Rein.*

Eastern North America, from Massachusetts to Florida.

CRYPTONEMIACEÆ.

Callophyllis laciniata, Kütz.

Callophyllis laciniata, Kütz., Sp. Alg., p. 744; Harv., Nereis Bor.-Am., ii. p. 171.
Rhodymenia laciniata, Grev.; Harv., Phyc. Brit., t. 121; Kemp. in Canad. Nat. and Geol., May 1857.

BERMUDAS. *Kemp.*

Western Europe; Mediterranean; California; Cape Heulopen, eastern North America.

Kallymenia reniformis, J. G. Agardh.

Kallymenia reniformis, J. G. Agardh., Sp. Alg., ii. p. 286? Dickie in Journ. Linn. Soc. Lond., xiv. p. 315.

BERMUDAS.—A few very fragmentary specimens from thirty-one fathoms—*Moseley.*

The typical plant inhabits the shores of Western Europe.

Gigartina teedii, Roth.

Gigartina teedii, Roth, Cat., iii. p. 108; J. G. Agardh, Sp. Alg., ii. p. 266; Kemp. in Canad. Nat. and Geol., May 1857.

BERMUDAS. *Kemp.*

Western Europe; Mediterranean; Adriatic; Cape Verde Islands; Brazil.

Chondrus crispus, Lyngb.

Chondrus crispus, Lyngb., Hydr., p. 15, t. 5; J. G. Agardh, Sp. Alg., ii. p. 246; Harv., Nereis Bor.-Am., ii. p. 181; Kemp in Canad. Nat. and Geol., May 1857.

BERMUDAS. *Kemp.*

Coast of Western Europe and eastern North America, "from the shores of British America to those of Long Island"—*Harvey.*

As neither Rein nor Moseley collected this distinct alga, and as there is no other record of it so far south on the American side of the Atlantic, there is some reason for doubting the Bermudan origin of Kemp's specimen.

Cryptonemia crenulata, J. G. Agardh.

Cryptonemia crenulata, J. G. Agardh, Sp. Alg., ii. p. 225; Harv., Nereis Bor.-Am., ii. p. 184; Rein in Bericht Senckenb. Naturf. Gesellsch., Frankf. am M., 1873, p. 152.
Phyllophora crenulata, J. G. Agardh, Symb., i. p. 18; Kütz., Sp. Alg., p. 791.

BERMUDAS. *Rein.*

Florida; Brazil.

Chrysymenia uvaria, J. G. Agardh.

Chrysymenia uvaria, J. G. Agardh, Sp. Alg., ii. p. 214; Harv., Nereis Bor.-Am., ii. p. 191, t. 20, B.; Rein in Bericht Senckenb. Naturf. Gesellsch., Frankf. am M., 1873, p. 152.
Gastroclonium uvaria, Kütz., Sp. Alg., p. 865.

BERMUDAS. *Kemp; Rein; Farlow.*

Florida; Mediterranean; Australia; Philippines.

Chrysymenia agardhii, Harv.

Chrysymenia agardhii, Harv., Nereis Bor.-Am., ii. p. 189, t. 30, A.; Dickie in Journ. Linn. Soc. Lond., xiv. p. 315.

BERMUDAS.—A very dwarf and matted variety from shallow water—*Moseley.*

Florida Keys.

Chrysymenia halymenioides, Harv.

Chrysymenia halymenioides, Harv., Nereis Bor.-Am., ii. p. 188, t. 20, A.; Dickie in Journ. Linn. Soc. Lond., xiv. p. 315.

BERMUDAS.—A single very small example one inch high—*Moseley*.

Florida Keys.

Harvey states that this is very closely allied to the next.

Chrysymenia dichotoma, J. G. Agardh ?

Chrysymenia dichotoma, J. G. Agardh, Sp. Alg., ii. p. 211? Dickie in Journ. Linn. Soc. Lond., xiv. p. 315; Harv., Nereis Bor.-Am., ii. p. 189.

BERMUDAS.—From thirty-one fathoms—*Moseley*.

Adriatic; Mediterranean; Teneriffe.

Chylocladia rosea, Harv.

Chylocladia rosea, Harv., Phyc. Brit., t. 301, et Nereis Bor.-Am., p. 186; Kemp in Canad. Nat. and Geol., May 1857.

BERMUDAS. *Kemp*.

Eastern coast of North America and Western Europe.

We have seen no specimens from the American side of the Atlantic farther south than Rhode Island.

Catenella pinnata, Harv.

Catenella pinnata, Harv., Nereis Bor.-Am., ii. p. 201, t. 29, B.

BERMUDAS. *Farlow*.

Florida Keys.

Gloiosiphonia capillaris, Carm.

Gloiosiphonia capillaris, Carm.; J. G. Agardh, Sp. Alg., ii. p. 161; Harv., Nereis Bor.-Am. ii. p. 202; Kemp in Canad. Nat. and Geol., May 1857.

BERMUDAS. *Kemp*.

Western Europe from Norway to Spain; eastern North America, on the coast of New England; Vancouver Island, Pacific.

CERAMIACEÆ.

Centroceras clavulatum, J. G. Agardh.

Centroceras clavulatum, J. G. Agardh, Sp. Alg., ii. p. 148; Harv., Nereis Bor.-Am., ii. p. 211, t. 33, C.; Dickie in Journ. Linn. Soc. Lond., xiv. p. 315.

BERMUDAS.—Shallow water—*Moseley; Rein*.

Generally diffused in tropical and subtropical seas, and extending into the south temperate zone.

Centroceras cryptacanthum, Kütz.

Centroceras cryptacanthum, Kütz. in Linnæa, 1842, p. 741, et Sp. Alg., p. 688; Dickie in Journ. Linn. Soc. Lond., xiv. p. 315.

BERMUDAS.—Shallow water—*Moseley.*

West Indies; Cape Verde Islands; Brazil; Falkland Islands; Valparaiso.

Ceramium nitens, J. G. Agardh.

Ceramium nitens, J. G. Agardh, Sp. Alg., ii. p. 130; Harv., Nereis Bor.-Am., ii. p. 213; Rein in Bericht Senckenb. Naturf. Gesellsch., Frankf. am M., 1873, p. 152.

BERMUDAS. *Rein.*

Florida Keys; West Indies.

Ceramium rubrum, J. G. Agardh.

Ceramium rubrum, J. G. Agardh, Sp. Alg., ii. p. 127; Harv., Nereis Bor.-Am., ii. p. 213; Kemp in Canad. Nat. and Geol., May 1857.

BERMUDAS. *Kemp.*

A very widely dispersed species, including the eastern coast of North America from the Arctic Sea to South Carolina.

Ceramium fastigiatum, Harv.

Ceramium fastigiatum, Harv., Phyc. Brit., t. 255, et Nereis Bor.-Am., ii. p. 217; Kemp in Canad. Nat. and Geol., May 1857.

BERMUDAS. *Kemp.*

Baltic; Adriatic; Mediterranean; North Atlantic, though not recorded from the coast of the Southern States of North America.

CHLOROSPERMEÆ.

SIPHONACEÆ.

Caulerpa mexicana, Sonder.

Caulerpa mexicana, Sonder, ex Kütz., Sp. Alg., p. 496; Harv., Nereis Bor.-Am., iii. p. 16, t. 37, A.; Dickie in Journ. Linn. Soc. Lond., xiv. p. 315.

BERMUDAS.—From shallows, and also dredged from thirty-one fathoms; specimens from this depth well developed and of the usual colour—*Moseley; Rein.*

Florida Keys; West Indies; Mexico; Fernando-Noronha; Cape Verde Islands; Ceylon.

Caulerpa plumaris, K. A. Agardh.

Caulerpa plumaris, K. A. Agardh, Sp. Alg., i. p. 436; Kütz., Sp. Alg., p. 496; Harv., Nereis Bor.-Am., iii. p. 17, t. 38, C.; Rein in Bericht Senckenb. Naturf. Gesellsch., Frankf. am M., 1873, p. 153.

Bermudas. *Kemp; Rein; Farlow.*

Florida Keys, and generally dispersed in warm seas.

Caulerpa clavifera, K. A. Agardh.

Caulerpa clavifera, K. A. Agardh, Sp. Alg., i. p. 437; Harv., Nereis Bor.-Am., iii. p. 19; Dickie in Journ. Linn. Soc. Lond., xiv. p. 315.
Chanoinia clavifera, Kütz., Sp. Alg., p. 498.

Bermudas.—In lagoons—*Moseley; Rein.*

Also a very widely diffused species.

Caulerpa prolifera, Lamour.

Caulerpa prolifera, Lamour. in Journ. de Bot., Paris, 1809, ii. p. 136; Harv., Nereis Bor.-Am., iii. p. 16, t. 38, B.; Rein in Bericht Senckenb. Naturf. Gesellsch., Frankf. am M., 1873, p. 153.
Phyllerpa prolifera, Kütz., Sp. Alg., p. 494.

Bermudas. *Kemp; Rein.*

Widely distributed in the North Atlantic and Mediterranean.

Caulerpa taxifolia, K. A. Agardh.

Caulerpa taxifolia, K. A. Agardh, Sp. Alg., i. p. 435, cum β *crassifolia*, l. c., p. 436; Kütz., Sp. Alg., p. 495.

Bermudas.—Walsingham—*Farlow.*

Widely dispersed in warm seas.

Halimeda incrassata, Lamour.

Halimeda incrassata, Lamour., Exp. Méth., p. 26, ex Kütz., Sp. Alg., p. 504; Harv., Nereis Bor.-Am., iii. p. 24; Dickie in Journ. Linn. Soc. Lond., xv. p. 488; Rein in Bericht Senckenb. Naturf. Gesellsch., Frankf. am M., 1873, p. 153.

Bermudas. *Moseley; Rein.*

West Indies; Florida Keys; North Australia; Friendly Islands.

Halimeda opuntia, Lamour.

Halimeda opuntia, Lamour., Exp. Méth., p. 27, t. 20, fig. 6; Kütz., Sp. Alg., p. 504; Harv., Nereis Bor.-Am., iii. p. 23, t. 40, B.; Rein in Bericht Senckenb. Naturf. Gesellsch., Frankf. am M., 1873, p. 153.

Bermudas. *Rein.*

Florida Keys, and generally diffused in warm seas, especially on insular shores. Thus, Moseley collected it at Fernando-Noronha, at St Thomas, Tongatabu, Admiralty Isles, Philippines, Sandwich Islands, and Tahiti.

Halimeda tuna, Lamour.

Halimeda tuna, Lamour., Exp. Méth., p. 27, ex Kütz., Sp. Alg., p. 504; Harv., Nereis Bor.-Am., iii. p. 25, t. 40, A.; Dickie in Journ. Linn. Soc. Lond., xv. p. 488.

BERMUDAS. *Moseley.*

Florida Keys; Brazil; Mediterranean; Cape Verde Islands; Rodriguez; Ceylon; Philippines; Admiralty Islands.

Udotea conglutinata, Lamour.

Udotea conglutinata, Lamour., Polyp. Flex., p. 312, ex Kütz., Sp. Alg., p. 502; Harv., Nereis Bor.-Am., iii. p. 27, t. 40, C.; Dickie in Journ. Linn. Soc. Lond., xiv. p. 315.

BERMUDAS.—From thirty-one fathoms—*Moseley; Rein.*

Florida Keys; West Indies; Brazil.

Udotea flabellata, Lamour.

Udotea flabellata, Lamour., Polyp. Flex., p. 311, t. 12, fig. 1, ex Kütz., Sp. Alg., p. 502; Harv., Nereis Bor.-Am., iii. p. 26; Dickie in Journ. Linn. Soc. Lond., xv. p. 488; Rein in Bericht Senckenb. Naturf. Gesellsch., Frankf. am M., 1873, p. 153.

BERMUDAS. *Moseley; Rein.*

Florida Keys; West Indies; Friendly Islands; North Australia.

Rhipilia longicaulis, Kütz.

Rhipilia longicaulis, Kütz., ex Dickie in Journ. Linn. Soc. Lond., xiv. p. 315.

BERMUDAS.—In shallows—*Moseley.*

West Indies; Australia.

Chlorodesmis vaucheriæformis, Bail. et Harv.

Chlorodesmis vaucheriæformis, Bail. et Harv. in Harv. Nereis Bor.-Am., iii. p. 30, t. 40, D.; Dickie in Journ. Linn. Soc. Lond., xv. p. 488.

BERMUDAS. *Moseley.*

Florida Keys; Ceylon.

Codium tomentosum, K. A. Agardh.

Codium tomentosum, K. A. Agardh, Sp. Alg., i. p. 452; Kütz., Sp. Alg., p. 500; Harv., Nereis Bor.-Am., iii. p. 29; Dickie in Journ. Linn. Soc. Lond., xiv. p. 315.

BERMUDAS.—From thirty-one fathoms; large and of the ordinary colour—*Moseley; Kemp; Rein.*

One of the most generally diffused sea-weeds.

Codium adhærens, K. A. Agardh.

Codium adhærens, K. A. Agardh, Sp. Alg., i. p. 457; Kütz., Sp. Alg., p. 502; Kemp in Canad. Nat. and Geol., May 1857.

Codium difforme, Kütz., Phyc. Gener., p. 300; Dickie in Journ. Linn. Soc. Lond., xv. p. 488.

BERMUDAS. *Kemp; Moseley.*

Western Europe; Canaries; Cape Verde Islands; Mediterranean; New Zealand; Mauritius; Rodriguez; Ceylon.

Codium bursa, K. A. Agardh.

Codium bursa, K. A. Agardh, Sp. Alg., i. p. 457; Kütz., Sp. Alg., p. 502; Kemp. in Canad. Nat. and Geol., May 1857.

BERMUDAS. *Kemp.*

Western Europe; Mediterranean; Canaries.

We have no other than Kemp's record of this occurring on the western side of the Atlantic.

Bryopsis plumosa, K. A. Agardh.

Bryopsis plumosa, K. A. Agardh, Sp. Alg., i. p. 448; Kütz., Sp. Alg., p. 493; Harv., Nereis Bor.-Am., iii. p. 31, t. 45, A.; Dickie in Journ. Linn. Soc. Lond., xv. p. 488; Kemp in Canad. Nat. and Geol., May 1857.

BERMUDAS. *Moseley; Kemp.*

Widely diffused, and extending to New Zealand in the south.

Kemp's list includes *Bryopsis hypnoides*, Lamour., which Kützing regards as a variety of *Bryopsis plumosa.*

Bryopsis tenuissima, Moris et De Notaris.

Bryopsis tenuissima, Moris et De Notaris, Fl. Capr., p. 203, ex Kütz., Sp. Alg., p. 490.

Derbesia marina, Solier, Rev. Bot., 1846, p. 452; Rein in Bericht Senckenb. Naturf. Gesellsch., Frankf. am M., 1873, p. 153.

BERMUDAS. *Rein.*

Red Sea; Mediterranean; Adriatic; Faroe Islands; Pacific coast of South America.

DASYCLADEÆ.

Dasycladus occidentalis, Harv.

Dasycladus occidentalis, Harv., Nereis Bor.-Am., iii. p. 38, t. 41, B.; Rein in Bericht Senckenb. Naturf. Gesellsch., Frankf. am M., 1873, p. 153.

BERMUDAS. *Rein.*

Florida Keys.

Acetabularia crenulata, Lamour.

Acetabularia crenulata, Lamour., Polyp. Flex., p. 244, t. 8, fig. 1, ex Kütz., Sp. Alg., p. 510; Harv., Nereis Bor.-Am., iii. p. 40, t. 42, A.; Kemp. in Canad. Nat. and Geol., May 1857.

BERMUDAS. *Kemp; Rein.*

Florida Keys.

Cymopolia barbata, Lamour.

Cymopolia barbata, Lamour., Polyp. Flex., p. 293, ex Kütz., Sp. Alg., p. 511; Harv., Nereis Bor.-Am., iii. p. 36, t. 41, A.; Rein in Bericht Senckenb. Naturf. Gesellsch., Frankf. am M., 1873, p. 153.

BERMUDAS. *Rein.*

Florida Keys; West Indies; Canaries.

VALONIACEÆ.

Penicillus capitatus, Lamark.

Penicillus capitatus, Lamark in Ann. Mus., xx. p. 299; Harv., Nereis Bor.-Am., iii. p. 45, t. 43, B.; Rein in Bericht Senckenb. Naturf. Gesellsch., Frankf. am M., 1873, p. 153; Dickie in Journ. Linn. Soc. Lond., xv. p. 489.

Corallocephalus penicillus, Kütz., Sp. Alg., p. 505; Harv., Nereis Bor.-Am., iii.

BERMUDAS. *Moseley; Rein.*

Florida Keys.

Penicillus dumetosus, Dcne.

Penicillus dumetosus, Dcne. in Ann. Sc. Nat., xviii. p. 109; Dickie in Journ. Linn. Soc. Lond., xiv. p. 316; Harv., Nereis Bor.-Am., iii. p. 44, t. 43, A.

Corallocephalus dumetosus, Kütz., Sp. Alg., p. 506.

BERMUDAS.—In shallow lagoons—*Moseley.*

Florida Keys; West Indies.

Valonia utricularis, K. A. Agardh.

Valonia utricularis, K. A. Agardh, Sp. Alg., i. p. 431; Kütz., Sp. Alg., p. 507.

BERMUDAS. *Farlow.*

Mediterranean; Adriatic; Atlantic coast of Spain; Ceylon; Philippines; Tongatabu.

Blodgettia confervoides, Harv.

Blodgettia confervoides, Harv., Nereis Bor.-Am., iii. p. 48, t. 45, C.; Perc. Wright in Trans. Roy. Irish Acad., 1881, t. 2; Rein in Bericht Senckenb. Naturf. Gesellsch., Frankf. am M., 1873, p. 153.

BERMUDAS. *Rein.*

Florida Keys.

Anadyomene flabellata, Lamour.

Anadyomene flabellata, Lamour., Polyp. Flex., p. 365, t. 14, fig. 3, ex Kütz., Sp. Alg., p. 511; Harv., Nereis Bor.-Am., iii. p. 49, t. 44, A.; Dickie in Journ. Linn. Soc. Lond., xv. p. 489.

BERMUDAS. *Moseley; Rein; Farlow.*

Mediterranean; Adriatic; West Indies; Brazil; Ceylon; Philippines.

Struvea ramosa, n. sp.

Struvea ramosa, n. sp., Dickie in Journ. Linn. Soc. Lond., xiv. p. 316.

Stipes sursum opposite ramosus, flabellis subellipticis; filis anastomosantibus tripinnatis, articulis inferioribus pinnarum 7–8 plo, superioribus 3–4 plo, diametro longioribus.

"The only two species hitherto described (and both figured in the Phycologia Australis, vol. i.), have each but one flabellum; the present has a repetition of such. I believe it must be referred to the genus, the stipes being unicellular and monosiphonous, with transverse rugæ and thin reddish calcareous coat at the lower part."—*Dickie.*

BERMUDAS.—From thirty-one fathoms—*Moseley.*

ULVACEÆ.

Porphyra vulgaris, K. A. Agardh.

Porphyra vulgaris, K. A. Agardh, ex Kütz., Sp. Alg., p. 692; Harv., Phyc. Brit., t. 211, et Nereis Bor.-Am., iii. p. 53; Kemp in Canad. Nat. and Geol., May 1857.

BERMUDAS. *Kemp.*

Generally diffused.

Enteromorpha compressa, Grev.

Enteromorpha compressa, Grev., Alg. Brit., p. 180; Kütz., Sp. Alg., p. 480; Harv., Nereis Bor.-Am., iii. p. 57; Dickie in Journ. Linn. Soc. Lond., xiv. p. 316.

BERMUDAS.—In shallows—*Moseley; Rein.*

One of the commoner and generally diffused algæ.

Enteromorpha clathrata, Grev.

Enteromorpha clathrata, Grev., Alg. Brit., p. 181; Kütz., Sp. Alg., p. 479; Harv., Nereis Bor.-Am., iii. p. 57; Kemp in Canad. Nat. and Geol., May 1857.

BERMUDAS. *Kemp.*

Widely dispersed in the Atlantic; also on the coast of New Zealand.

Enteromorpha percursa, J. G. Agardh.

Enteromorpha percursa, J. G. Agardh, Alg. Med., p. 15; Rein in Bericht Senckenb. Naturf. Gesellsch., Frankf. am M., 1873, p. 153.

Schizogonium percursum, Kütz., Sp. Alg., p. 351.

Bermudas. *Rein.*

Atlantic and Baltic.

Ulva lactuca, Linn.

Ulva lactuca, Linn.; Kütz., Sp. Alg., p. 474; Rein in Bericht Senckenb. Naturf. Gesellsch., Frankf. am M., 1873, p. 153.

Bermudas. *Kemp; Rein.*

Mediterranean; eastern Atlantic, from Britain to the Cape of Good Hope; Mauritius; China.

Ulva latissima, Kütz.

Ulva latissima, Kütz., Phyc. Germ., p. 244, t. 20, fig. 4, et Sp. Alg., p. 474; Harv., Nereis Bor.-Am., iii. p. 59; Dickie in Journ. Linn. Soc. Lond., xv. p. 489.

Bermudas. *Moseley; Kemp; Rein.*

Generally diffused.

Monostroma orbiculatum, Thuret.

Monostroma orbiculatum, Thuret, ex Farl., Alg. Exsic. Am. Bor., n. 173.

Bermudas. *Farlow.*

Phycoseris linza, Kütz.

Phycoseris linza, Kütz., Phyc. Gener., p. 296, et Sp. Alg., p. 475; Harv., Nereis Bor.-Am., iii. p. 59; Kemp in Canad. Nat. and Geol., May 1857 (*Ulva linza,* Linn.)

Bermudas. *Kemp; Rein.*

Very widely spread.

Confervaceæ.

Cladophora glaucescens, Kütz.

Cladophora glaucescens, Kütz., Sp. Alg., p. 403; Harv., Nereis Bor.-Am., iii. p. 77; Rein in Bericht Senckenb. Naturf. Gesellsch., Frankf. am M., 1873, p. 153.

Bermudas. *Rein.*

North Sea; North Atlantic; Mauritius; North Pacific.

Cladophora lætevirens, Kütz.

Cladophora lætevirens, Kütz., Phyc. Germ., p. 214, et Sp. Alg., p. 400; Harv., Nereis Bor.-Am., iii. p. 82; Rein in Bericht Senckenb. Naturf. Gesellsch., Frankf. am M., 1873, p. 153.

Bermudas. *Rein.*

Baltic; North Sea; Cherbourg; Mediterranean; Vancouver Island.

Cladophora luteola, Harv.

Cladophora luteola, Harv., Nereis Bor.-Am., iii. p. 81; Dickie in Journ. Linn. Soc. Lond., xiv. p. 316.

Bermudas. *Moseley; Rein.*

The identity of Moseley's specimens with this species is somewhat doubtful.

Cladophora lutescens, Kütz.

Cladophora lutescens, Kütz., Phyc. Germ., p. 211, et Sp. Alg., p. 403; Rein in Bericht Senckenb. Naturf. Gesellsch., Frankf. am M., 1873, p. 153.

Bermudas. *Rein.*

North Sea; eastern North Atlantic; Mediterranean.

Cladophora prolifera, Kütz.

Cladophora prolifera, Kütz., Phyc. Germ., p. 207, et Sp. Alg., p. 390; Dickie in Journ. Linn. Soc. Lond., xiv. p. 316.

Bermudas. *Moseley.*

Mediterranean; eastern North Atlantic; Brazil; Peru; Bombay; Polynesia.

Hormotrichum bermudianum, Harv.

Hormotrichum bermudianum, Harv., sp. n., ex Rein in Bericht Senckenb. Naturf. Gesellsch., Frankf. am M., 1873, p. 153 (*absque descriptione*).

Bermudas. *Rein.*

We have seen no specimen of this species.

Chætomorpha ærea, Kütz.

Chætomorpha ærea, Kütz., Sp. Alg., p. 379; Harv., Nereis Bor.-Am., iii. p. 86; Dickie in Journ. Linn. Soc. Lond., xiv. p. 316.
Conferva ærea, Dillw., t. 80; Harv., Phyc. Brit., t. 99.

Bermudas.—In shallow water—*Moseley.*

Widely spread.

Chætomorpha geniculata, Mont.

Chætomorpha geniculata, Mont., Syll. Gen. et Sp. Crypt., p. 460; Rein in Bericht Senckenb. Naturf. Gesellsch., Frankf. am M., 1873, p. 153.

Bermudas. *Rein.*

West Indies.

OSCILLATORIACEÆ.

Lyngbya majuscula, Harv.

Lyngbya majuscula, Harv., Man., p. 160, et Nereis Bor.-Am., iii. p. 101, t. 47, A.; Kütz., Sp. Alg., p. 283; Dickie in Journ. Linn. Soc. Lond., xv. p. 489.

BERMUDAS. *Moseley; Rein.*

Florida Keys; West Indies; eastern coast of the North Atlantic; Ceylon; Polynesia; Mauritius.

CHARACEÆ.

Chara gymnopus, A. Braun.

Chara gymnopus, A. Braun, Schweiz. Char., 1849, p. 13, et Fragm. Monogr. Char., ed. Nordst., p. 189.

BERMUDAS.—In pools—*Lefroy; Farlow.*

As limited by Braun, this is an exceedingly variable and widely dispersed species.

ADDENDA.

SINCE the foregoing Report was printed, we have received a copy of General Sir John Henry Lefroy's The Botany of Bermuda, from Bulletin No. 25 of the United States National Museum. This little work was mainly compiled from materials placed at our disposal by the author; but it contains a few additional species, named by various botanists, and further particulars as to the localities of a number of the indigenous ones. Unfortunately, the editing leaves much to be desired, the same plant, in several instances, being repeated under different synonyms; others, by some slip, appear under false generic names, and some are enumerated under wrong natural orders. Nevertheless, we are able to make a few useful extracts concerning some of the probably indigenous plants. Additional species are printed in black type, with references to descriptions as in the body of the Report.

MALVACEÆ.

Hibiscus tiliaceus, Linn. Known to have been raised about fifty years ago from seed washed on shore.

RUTACEÆ.

Zanthoxylum aromaticum, Willd. ?

Zanthoxylum aromaticum, Willd. ? Griseb., Fl. Brit. W. Ind., p. 138.

Sir J. H. Lefroy thinks that a single tree of this or an allied species existing on a hill east of Paynter's Vale may be a survivor of the "Yellow Wood" frequently mentioned in the early records, where it is described as having leaves and rough bark like the walnut tree, and very pungent in taste. We had found no reference to this tree. Professor Oliver, to whom Sir J. H. Lefroy sent leaves, could not determine the species with certainty.

CELASTRINEÆ.

Myginda rhacoma, Swartz.

Myginda rhacoma, Swartz; Griseb., Fl. Brit. W. Ind., p. 146; Chapman, Fl. Southern U.S., p. 75.

Southampton parish. A berry-bearing shrub inhabiting Florida and the West Indies.

LEGUMINOSÆ.

Guilandina bonducella, Linn.

Guilandina bonducella, Linn.; Griseb., Fl. Brit. W. Ind., p. 204.

"Native, but only once found in Walsingham tract." A common seaside shrub in warm countries, the seeds of which are often cast ashore by the waves.

COMBRETACEÆ.

Laguncularia racemosa, Gært.

Laguncularia racemosa, Gært. ; Griseb., Fl. Brit. W. Ind., p. 276 Chapman, Fl. Southern U.S., p. 136 (*Conocarpus racemosus,* Linn.)

On the shore. A maritime shrub from Florida to Bahia, and on the western coast of Africa.

MYRTACEÆ.

Eugenia axillaris, Poir., is doubtless the same that we have referred to *Eugenia monticola,* DC.

RUBIACEÆ.

Spermacoce tenuior, Lam. In the Walsingham tract.

BORAGINEÆ.

Lithospermum distichum, Orteg.

Lithospermum distichum, Orteg. ; DC., Prodr., x. p. 77.

This Mexican plant is enumerated by Sir J. H. Lefroy as a native of the sea-shore.

VERBENACEÆ.

Callicarpa ferruginea, Swartz ?

Callicarpa ferruginea, Swartz ? Griseb., Fl. Brit. W. Ind., p. 499

Chiefly in the Walsingham tract. A common West Indian species.

URTICACEÆ.

Sponia lamarckiana, Dcne.

Sponia lamarckiana, Dcne. ; Griseb., Fl. Brit. W. Ind., p. 150.

Forms the underwood of a large part of the Walsingham tract, especially near Paynter's Vale. A common West Indian species.

JUNCACEÆ.

Juncus maritimus, Lam.

Juncus maritimus, Lam. ; Chapman, Fl. Southern U.S., p. 493.

Common in the wetter portions of the marshes. A widely dispersed rush.

GRAMINEÆ.

Arundinaria tecta, Muhl.

Arundinaria tecta, Muhl. ; Chapman, Fl. Southern U.S., p. 561.

This common swamp reed of the south-eastern States is recorded as indigenous in the Bermudas, but no special locality is given.

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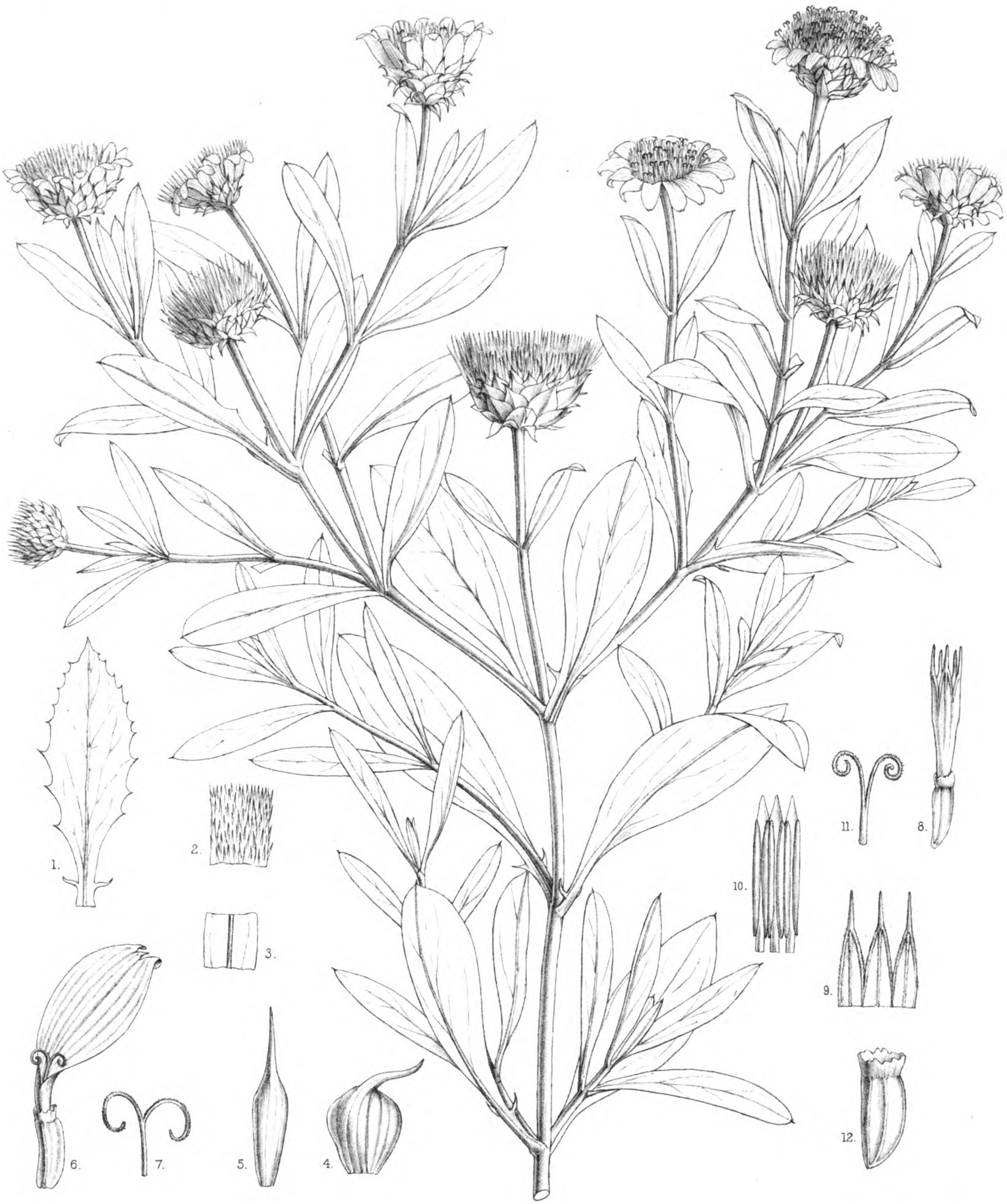
PLATE III.

PLATE III.

Portion of a plant of *Borrichia frutescens*, natural size.

Figure 1.—A distinctly toothed leaf from a Texan specimen.
,, 2.—Portion of a hairy leaf.
,, 3.—Portion of a glabrous leaf.
,, 4.—An outer bract of the involucre.
,, 5.—One of the rigid pales of the receptacle.
,, 6.—A ray-flower.
,, 7.—Upper portion of style from the same.
,, 8.—A disk-flower.
,, 9.—Portion of corolla of the same laid open, and showing the terete rigid tips of the lobes.
,, 10.—Anthers from a disk-flower.
,, 11.—Upper part of the style from a disk-flower.
,, 12.—A ripe achene : all enlarged except figure 1.

The main drawing was made from Floridan specimens in Kew Herbarium, the Bermudan being fragmentary and unsuitable for the purpose.



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Borrichia frutescens, *D.C.*

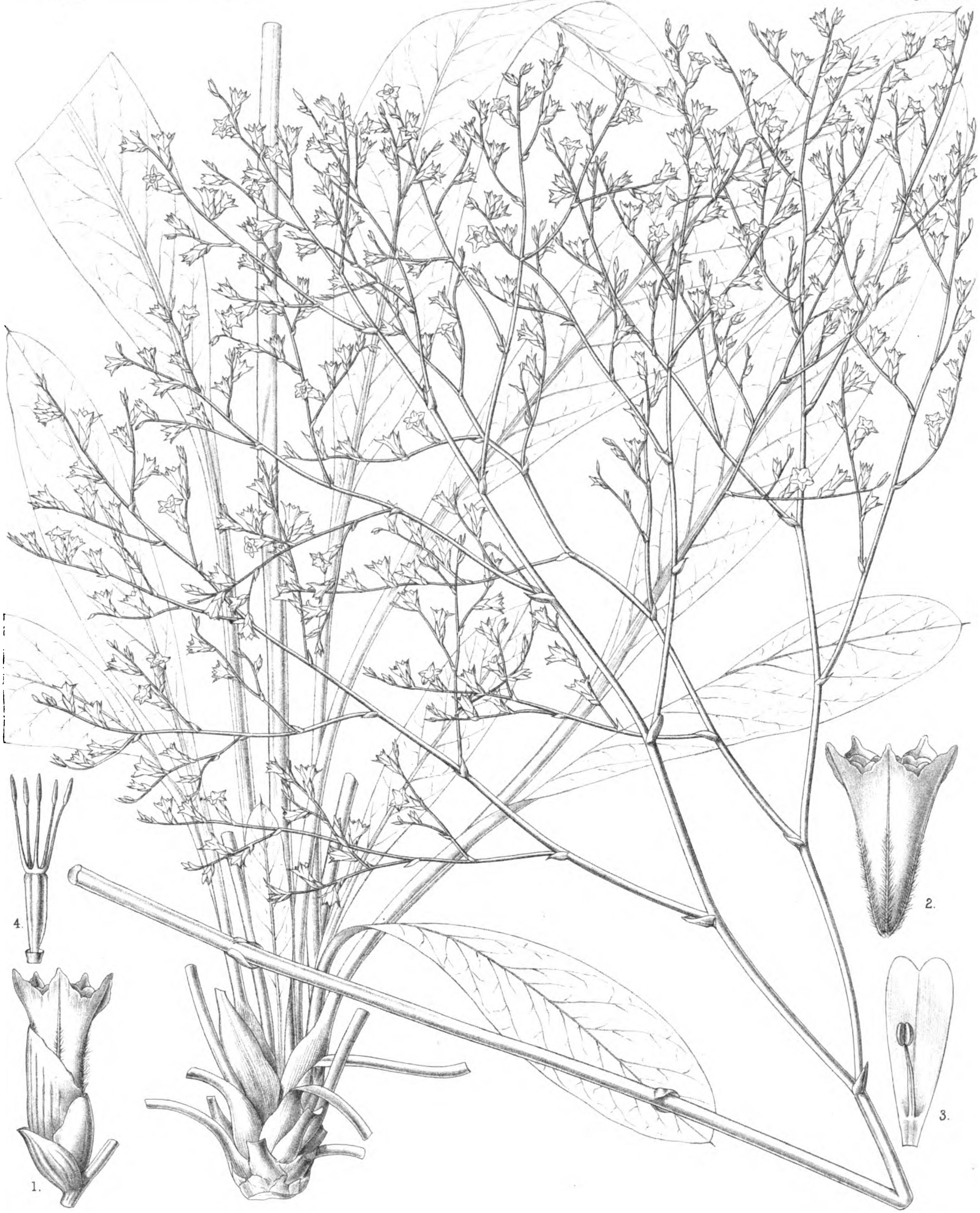
PLATE IV.

PLATE IV.

Portions of plant of *Statice lefroyi*, natural size.

Figure 1.—A spikelet.
,, 2.—A flower.
,, 3.—A petal and stamen.
,, 4.—A pistil: all enlarged.

Drawn from a specimen in Kew Herbarium, collected by Sir J. H. Lefroy.



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STATICE LEFROYI, *Hemsl.*

PLATE V.

PLATE V.

Figure 1.—Portion of a young plant of *Juniperus bermudiana*, with acicular spreading leaves.

,, 2.—A branch in the adult state, bearing very young fruit.

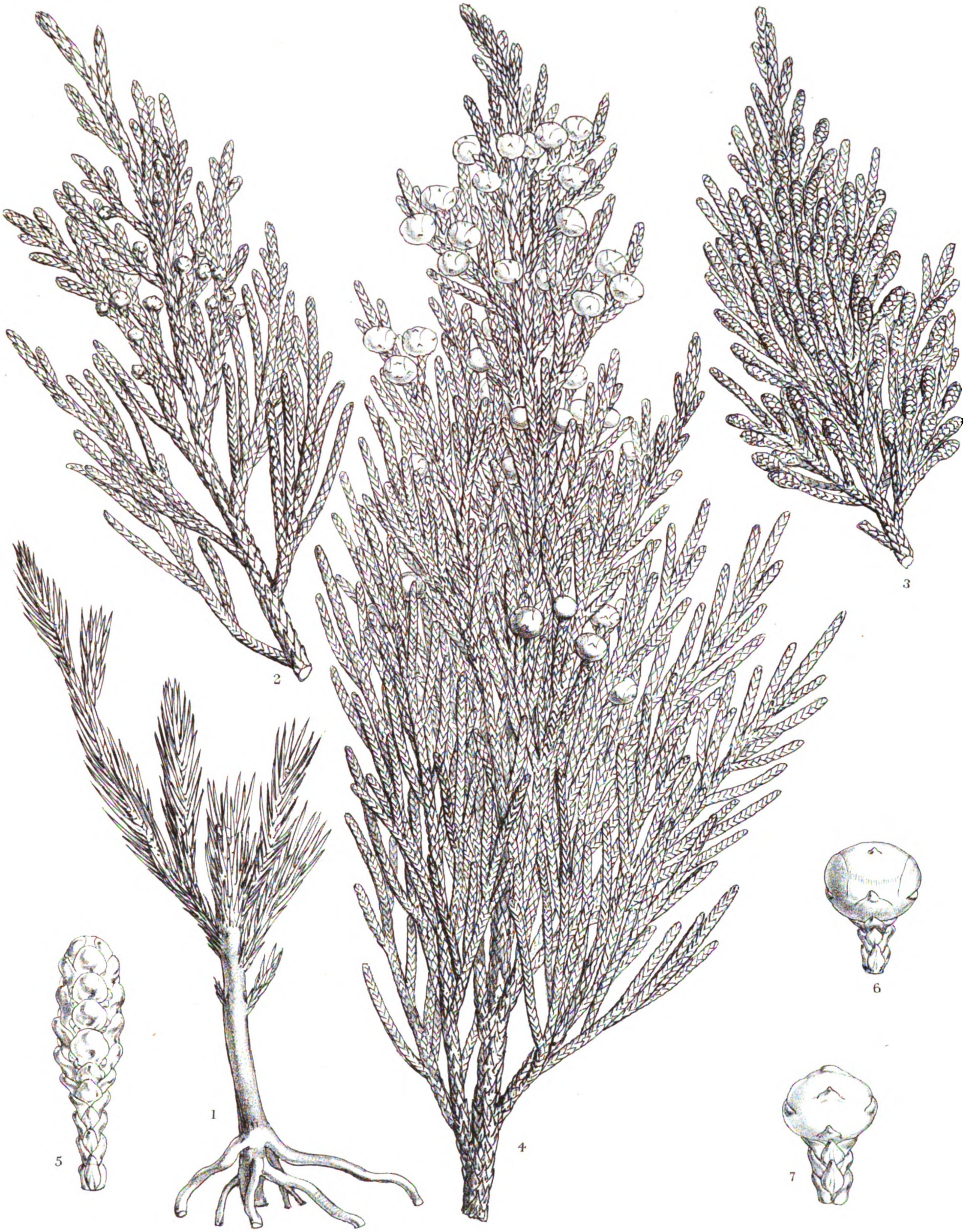
,, 3.—A branch bearing male flowers.

,, 4.—A branch bearing nearly ripe fruit: all natural size.

,, 5.—A male inflorescence.

,, 6, 7.—Fruits, enlarged.

The drawings were made from specimens in Kew Herbarium: figure 1 from a native seedling, collected by the Rev. C. J. Johns; figure 2 from a specimen collected by Mr Lane; figures 3 and 5 from a specimen collected by Sir W. Reid; and figures 4, 6, and 7 from a specimen collected by Mr Moseley.



W.H. Fitch del. et lith.

Hanhart imp.

JUNIPERUS BERMUDIANA, *Linn.*

PLATE VI.

PLATE VI.

Sabal blackburniana.

A reduced representation of a tree growing in the palm-house of the Royal Gardens, Kew, about one-fortieth of the natural size.

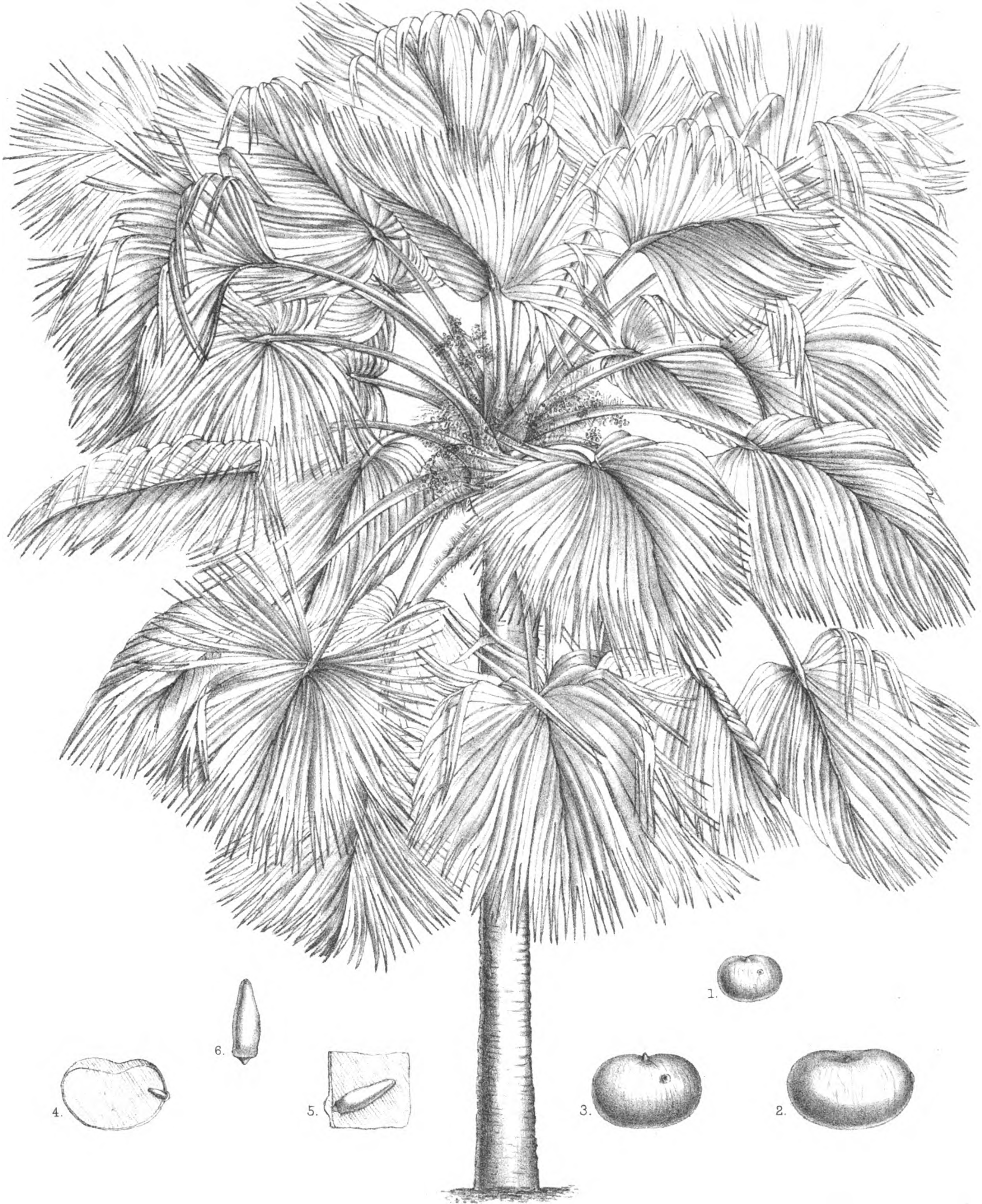
Figure 1.—A seed, natural size.

,, 2, 3.—The same, enlarged, from different positions.

,, 4.—A section of a seed, showing the embryo in position: slightly enlarged.

,, 5.—Embryo in position.

,, 6.—Embryo removed: both very much enlarged.



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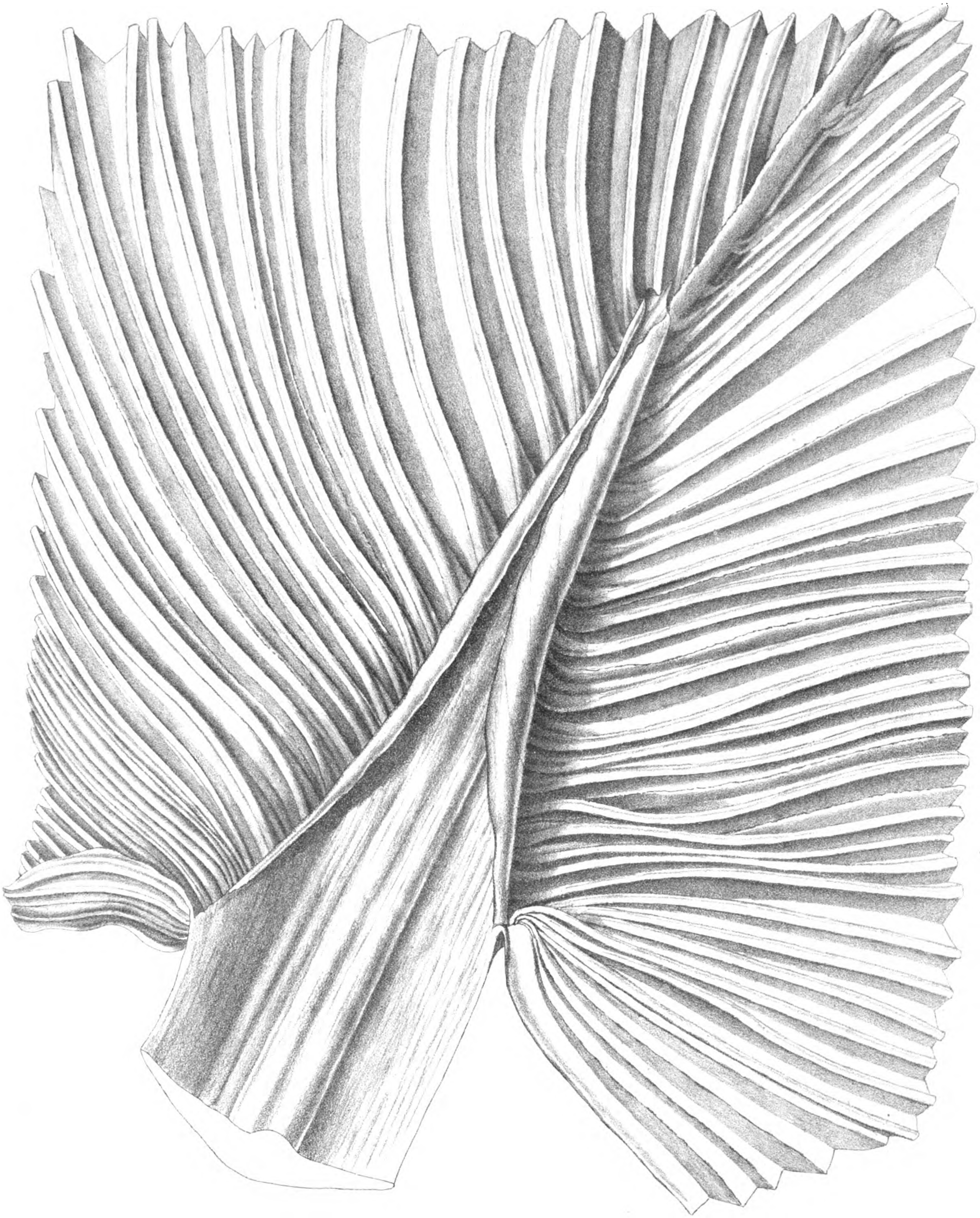
SABAL BLACKBURNIANA, *Glazebrook.*

PLATE VII.

PLATE VII.

Sabal blackburniana.

Basal part of the blade of a leaf, direct from the Bermudas: natural size.



SABAL BLACKBURNIANA, *Glazebrook.*

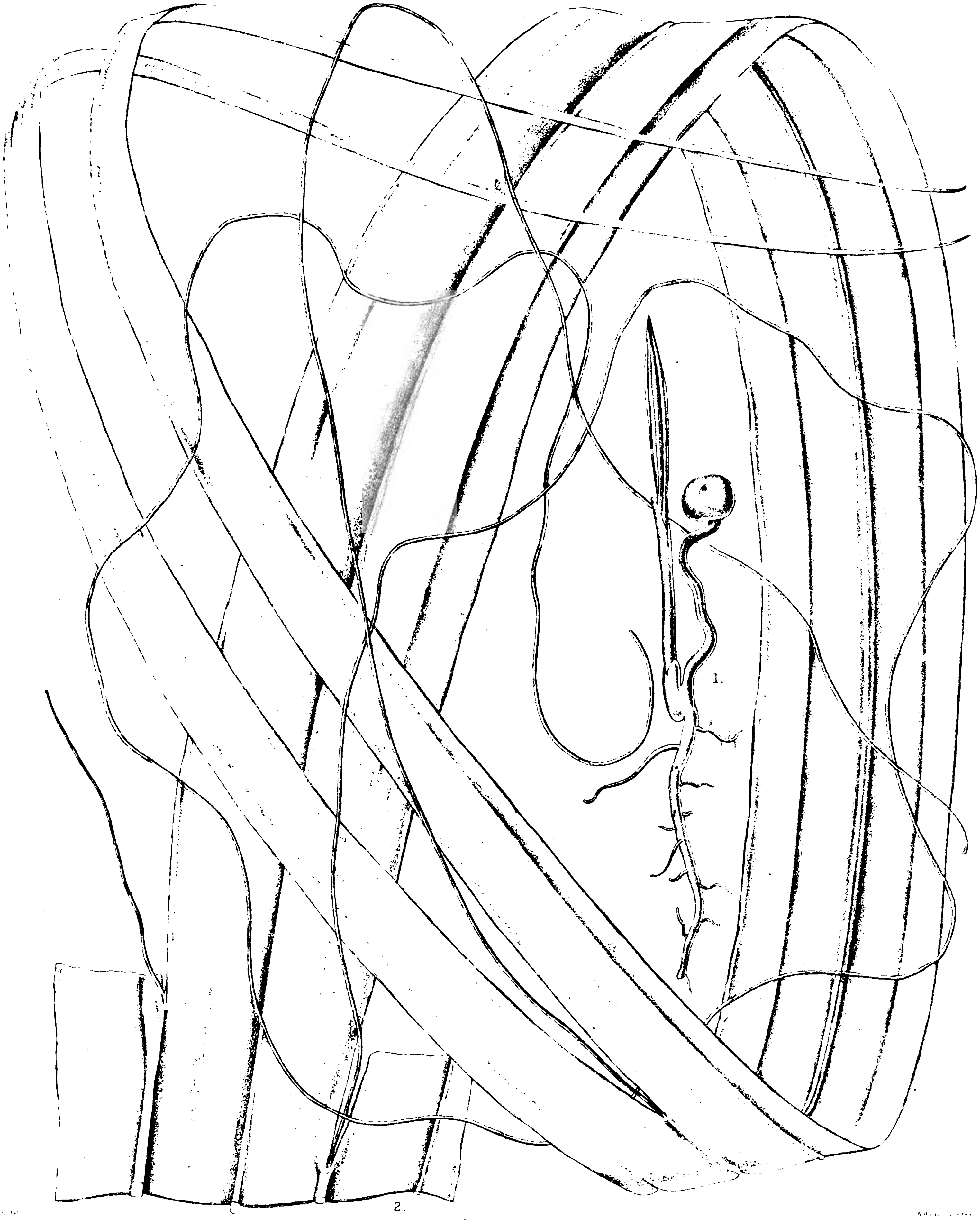
PLATE VIII.

PLATE VIII.

Sabal blackburniana.

Figure 1.—A young seedling raised in the Royal Gardens, Kew, from seed received from the Bermudas.

„ 2.—Terminal portion of a segment of the same leaf, of which the basal part of the blade is represented in Plate VII. : natural size.



SABAL BLACKBURNIANA, *Glazebrook*

PLATE IX.

PLATE IX.

Sabal blackburniana.

Figure 1.—Small portion of an inflorescence.

„ 2.—The same at a later stage.

„ 3.—Ripe fruit: all natural size.

„ 4.—An unexpanded flower.

„ 5.—An expanded flower.

„ 6.—The coherent petals laid open, showing the adherent stamens.

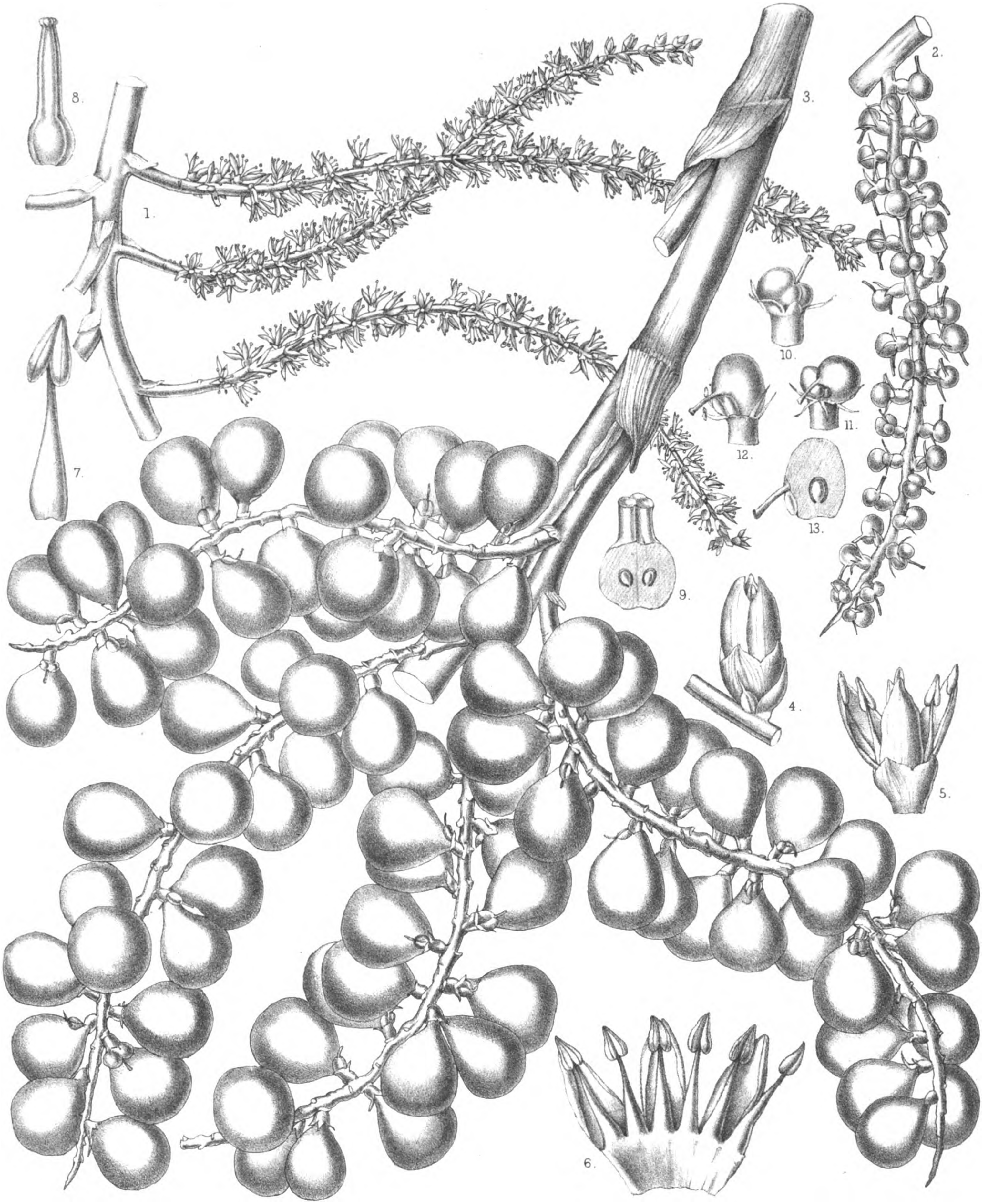
„ 7.—A stamen.

„ 8.—A pistil.

„ 9.—A tangential vertical section of the lower part of the same.

„ 10, 11, 12.—Variously developed pistils, shortly after the flowering stage.

„ 13.—Vertical section of a pistil of the same age: all enlarged.



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McFarlane & Erskine, Lithrs Edinr

SABAL BLACKBURNIANA, *Glazebrook.*

PLATE X.

PLATE X.

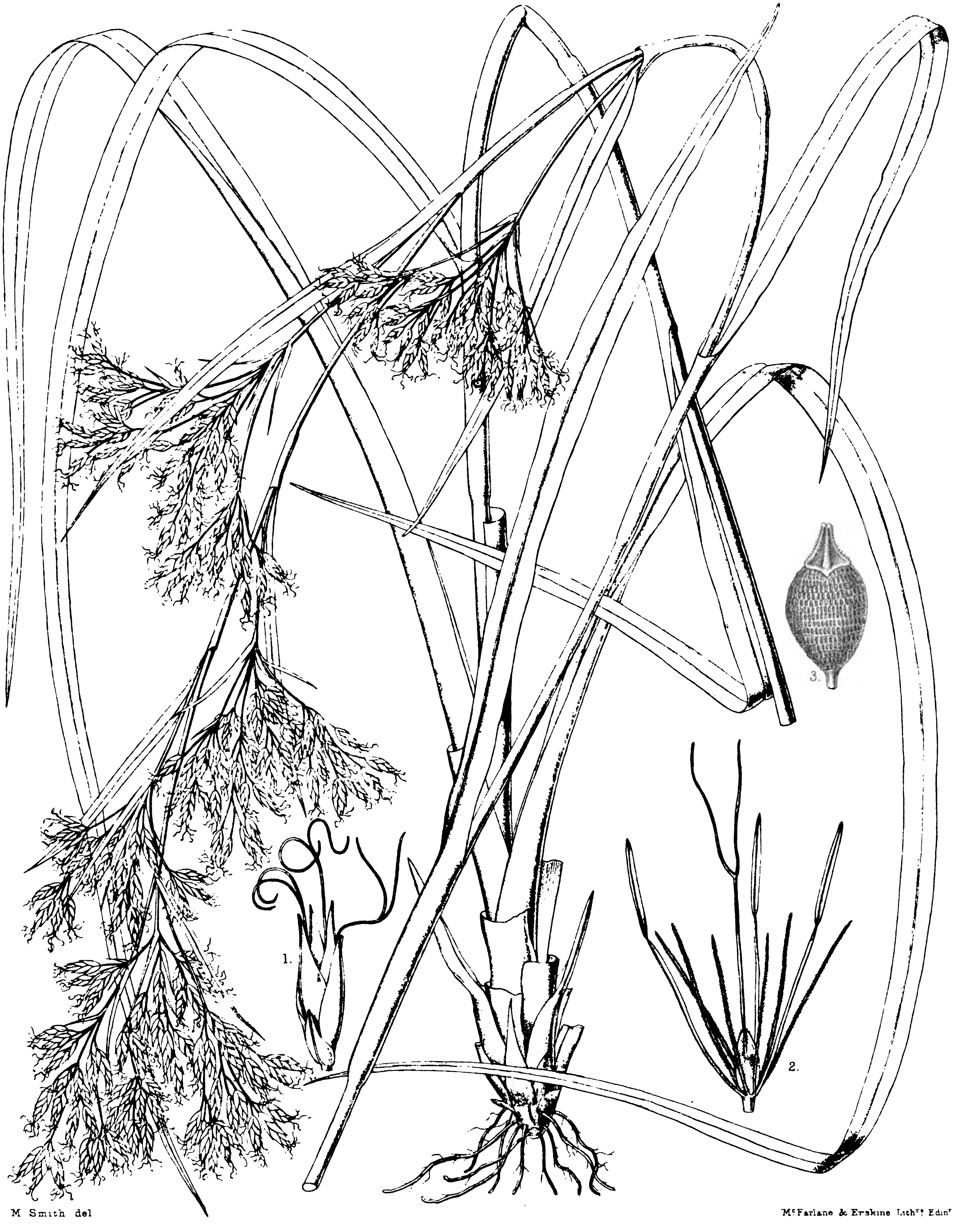
A portion of a plant of *Rhynchospora stipitata*, natural size.

Figure 1.—A spikelet.

" 2.—A single flower divested of its glume.

" 3.—A ripe nutlet: all enlarged.

The drawing was made from a plant in Kew Herbarium, from Bermuda, collected by Mr Moseley.



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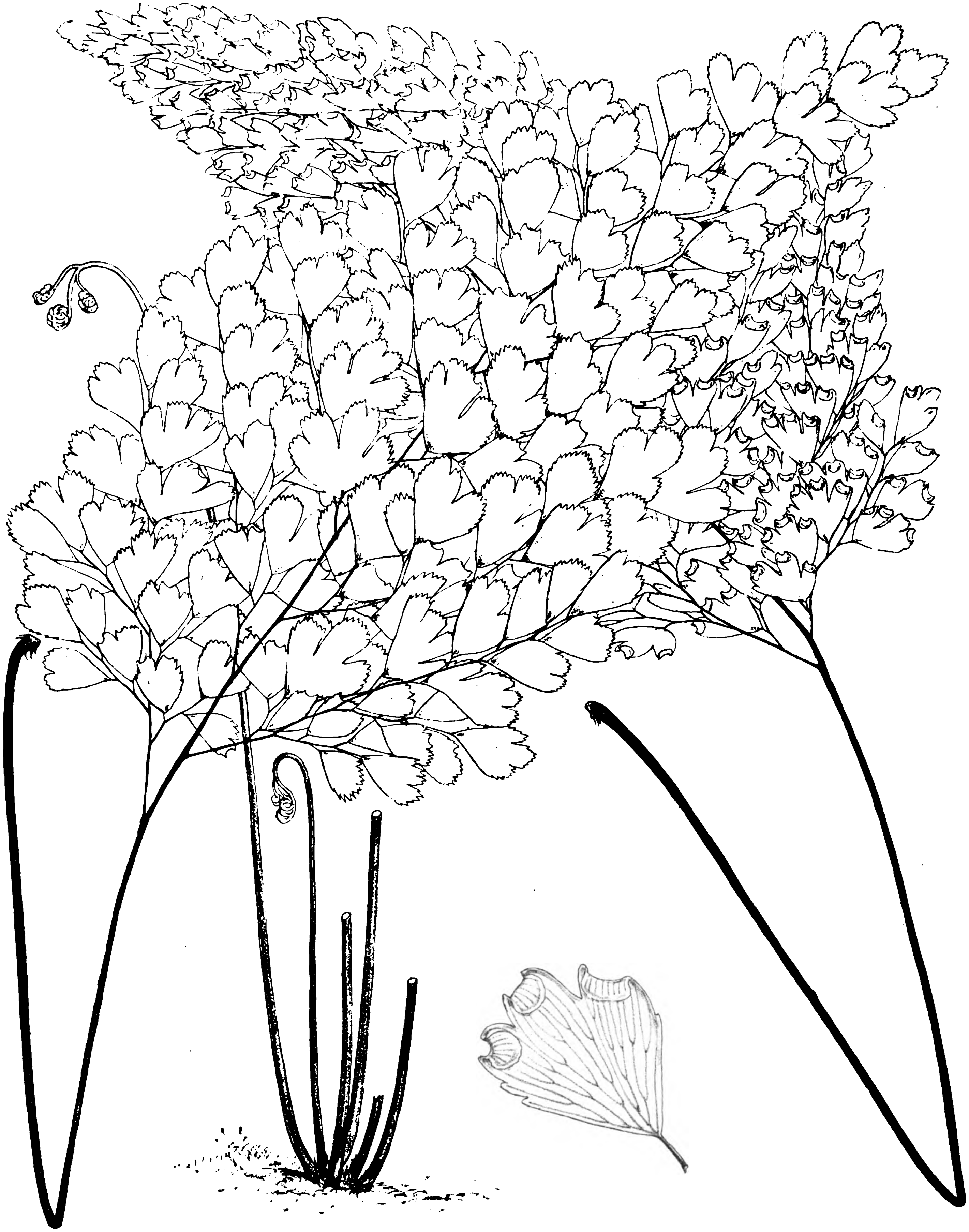
RHYNCHOSPORA STIPITATA, *Chapm.*

PLATE XI.

PLATE XI.

Fronds of *Asplenium bellum*, natural size, with one pinnule enlarged.

Drawn from a living plant cultivated at Kew.



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Hanhart imp

ADIANTUM BELLUM, T. Moore.

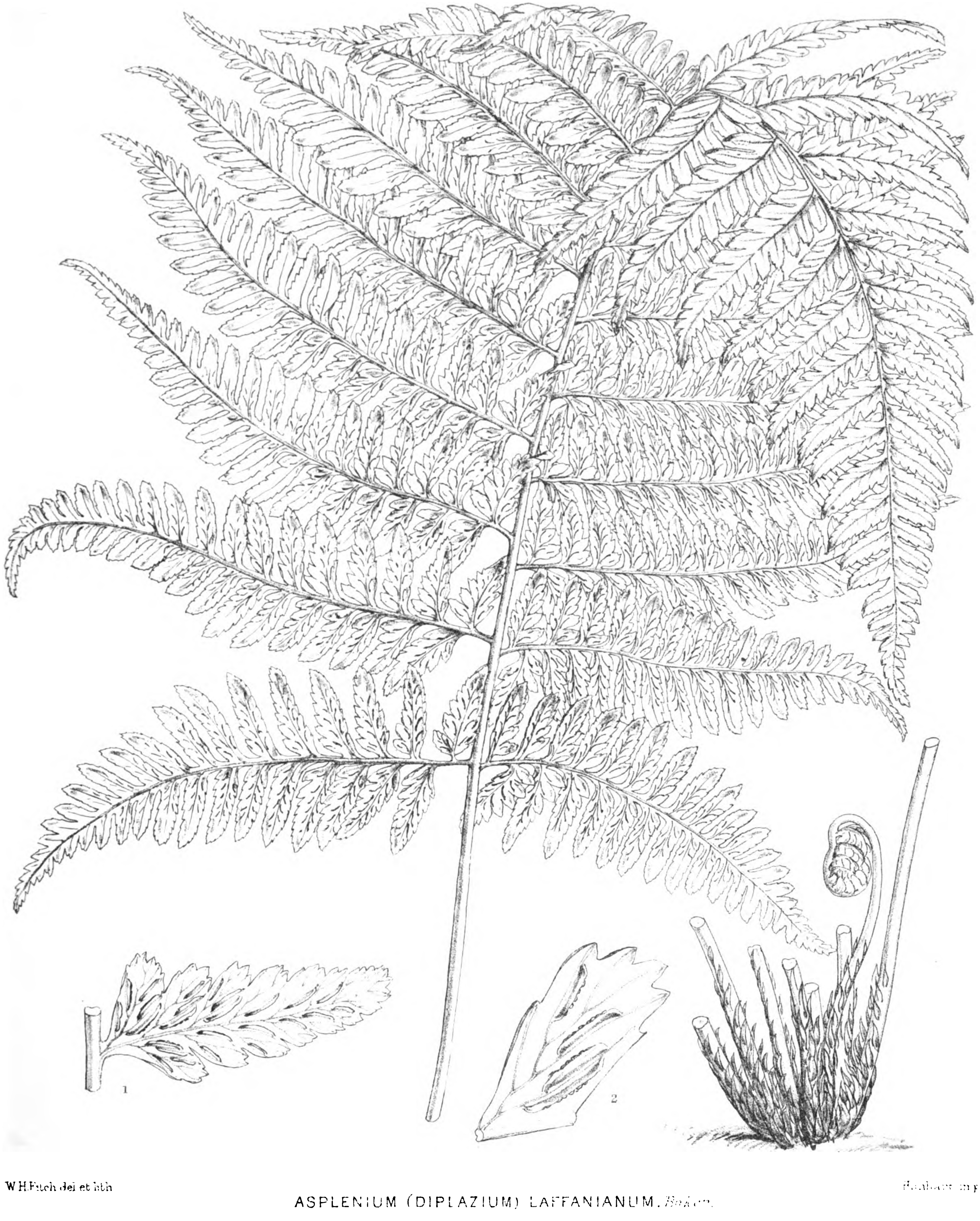
PLATE XII.

PLATE XII.

A frond of *Asplenium* (*Diplazium*) *laffanianum,* natural size.

Figure 1.—Tertiary segment, enlarged.

„ 2.—Quaternary segment, more enlarged.



W.H.Fitch del et lith

Hanhart imp

ASPLENIUM (DIPLAZIUM) LAFFANIANUM. *Baker.*

PLATE XIII.

PLATE XIII.

A frond of *Nephrodium bermudianum*, cut in two, natural size.

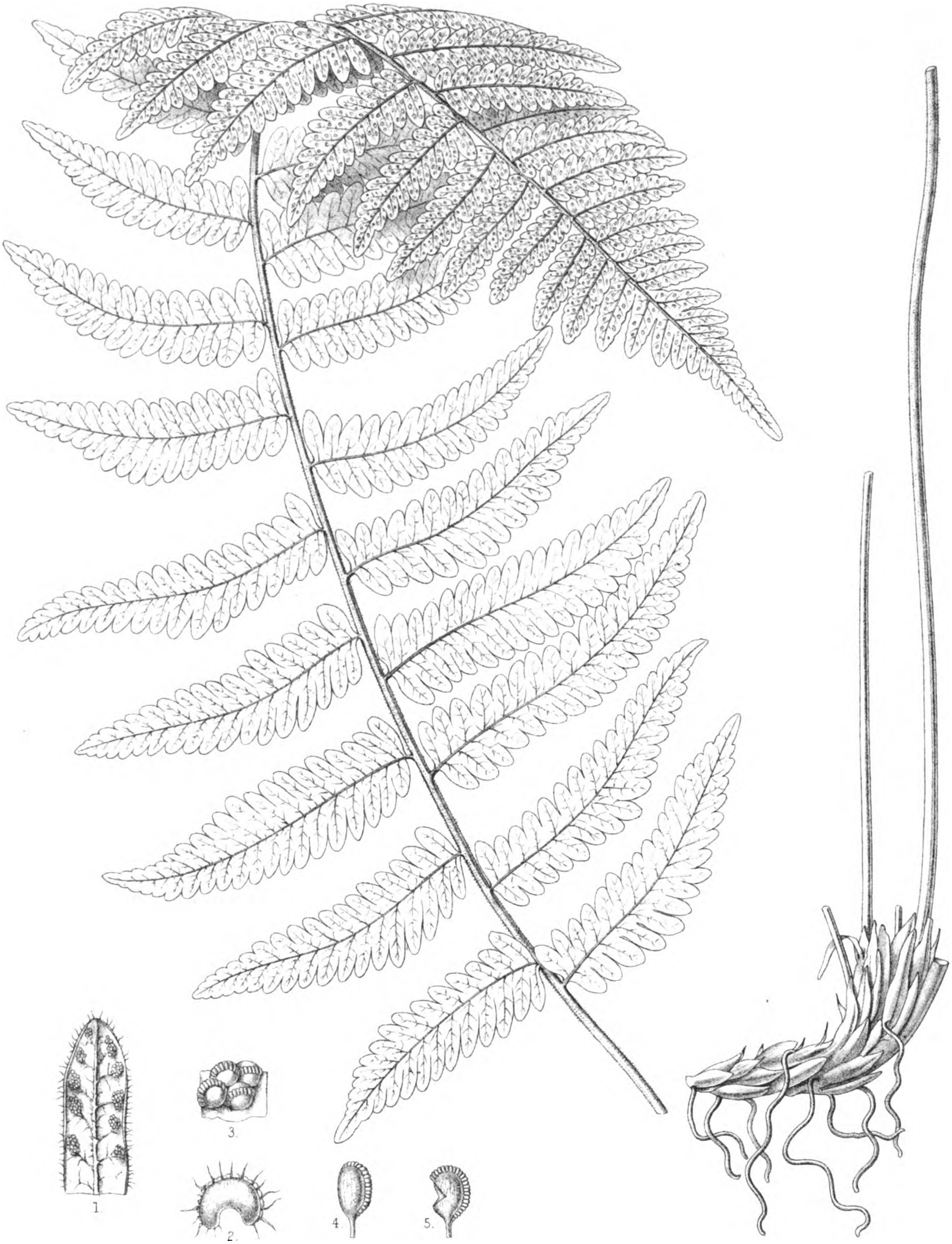
Figure 1.—A tertiary segment.

„ 2.—Indusium.

„ 3.—Portion of a sorus.

„ 4, 5.—Sporangia in different positions: all enlarged.

Drawn from a specimen in Kew Herbarium, collected by Dr Farlow.



M. Smith del.

M'Farlane & Erskine Lith^{rs} Edin^r

NEPHRODIUM BERMUDIANUM, *Baker.*